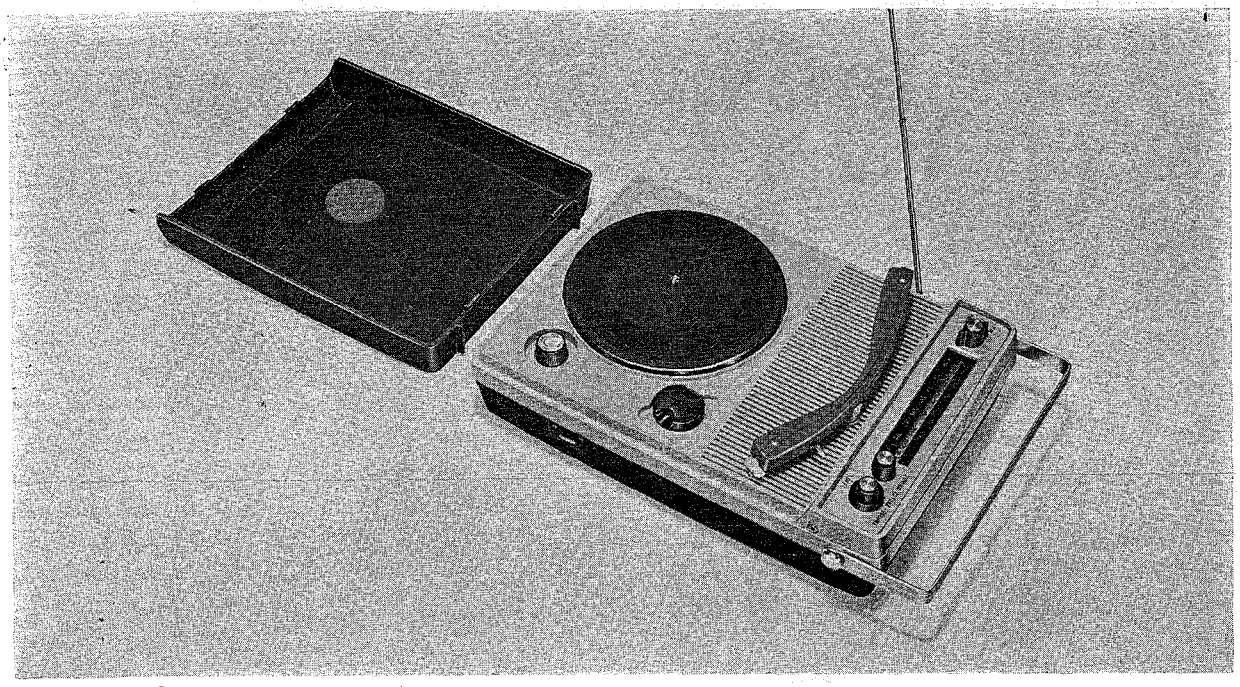
AIWA

AIWA CO., LTD.
TOKYO JAPAN

RADIO PHONOGRAPH SERVICE MANUAL

MODEL P-172 B, E, JH, L, LH, S, SH, SL, SLH, SS, SSH, ZH P-174, H



SPECIFICATIONS

MODEL No.	FREQUENCY RANGE	POWER SOURCE	CIRCUIT
P-172	AM 525-1650 Kc FM 88-108 Mc	· DC 6V, SIZE "D" or UM-1 (1.5 V) ×4 · AC 110~125 V	10 transistors 6 diodes 1 thermister
P-172 B	〃	· DC 6V, SIZE "D" or UM-1 (1.5 V) ×4 · Also operates on AC household power supply when an AC adaptor is used	10 transistors 4 diodes 1 thermister
P-172 E	AM 525-1650 Kc	〃	8 transistors 1 diode 1 thermister
P-172 L	LW 150-350 Kc AM 525-1650 Kc FM 88-108 Mc	〃	10 transistors 4 diodes 1 thermister
P-172 S	AM 525-1650 Kc SW 3.9-12 Mc	〃	8 transistors 1 diode 1 thermister
P-172 SL	LW 150-350 Kc AM 525-1650 Kc SW 6-16 Mc	〃	〃
P-172 SS	AM 525-1650 Kc SW1 3.2-8.5 Mc SW2 8.5-22 Mc	〃	〃
P-172 JH	AM 525-1650 Kc SW 6-16 Mc	· DC 6 V, SIZE "D" or UM-1 (1.5 V) ×4 · AC 110-125 V and AC 220-240V	8 transistors 3 diodes 1 thermister
P-172 LH	LW 150-350 Kc AM 525-1650 Kc FM 88-108 Mc	〃	10 transistors 6 diodes 1 thermister
P-172 SH	AM 525-1650 Kc SW 3.9-12 Mc	〃	8 transistors 3 diodes 1 thermisetr
P-172 SLH	LW 150-350 Kc AM 525-1650 Kc SW 6-16 Mc	〃	〃
P-172 SSH	AM 525-1650 Kc SW1 3.2-8.5 Mc SW2 8.5-22 Mc	〃	〃
P-172 ZH	AM 525-1650 Kc SW 5.9-6.2 Mc FM 88-108 Mc	〃	10 transistors 6 diodes 1 thermister
P-174	AM 525-1650 Kc FM 88-108 Mc	· DC 6 V, SIZE "D" or UM-1 (1.5 V) ×4 · AC 110-125 V	10 transistors 4 diodes 1 thermister
P-174 H	〃	· DC 6 V, SIZE "D" or UM-1 (1.5 V) ×4 · AC 110-125 V and 220-240 V	10 transistors 6 diodes 1 thermister

Output: Max. 1000 mW
Undistorted 800 mW
Speaker: PM. D. 2-3/4″×5″ oval
Antenna: 5 section whip antenna
Ferrite bar antenna
Phono-motor speed: 33-1/3, 45 and 78 rpm.
Pick-up: Crystal (or ceramic) type turnover system
Dimensions: 9-5/8″×16″×4″
Weight: 6-5/8 lbs. with batt.

NOTE:

* P-172 series come in 13 types and P-174 in 2, the model distinction primarily derived from their differences in power rating and frequency range. Find applicable instructions for respective models in this service manual which covers all types available under both series.

* Due to our continuing effort to you better products, each model is subject to minor changes, from time to time, in design and/or electrical ratings for improved performance.

MECHANICAL PARTS P-172, B, E, JH, L, LH, S, SH, SL, SLH, SS, SSH, ZH, P-174, H

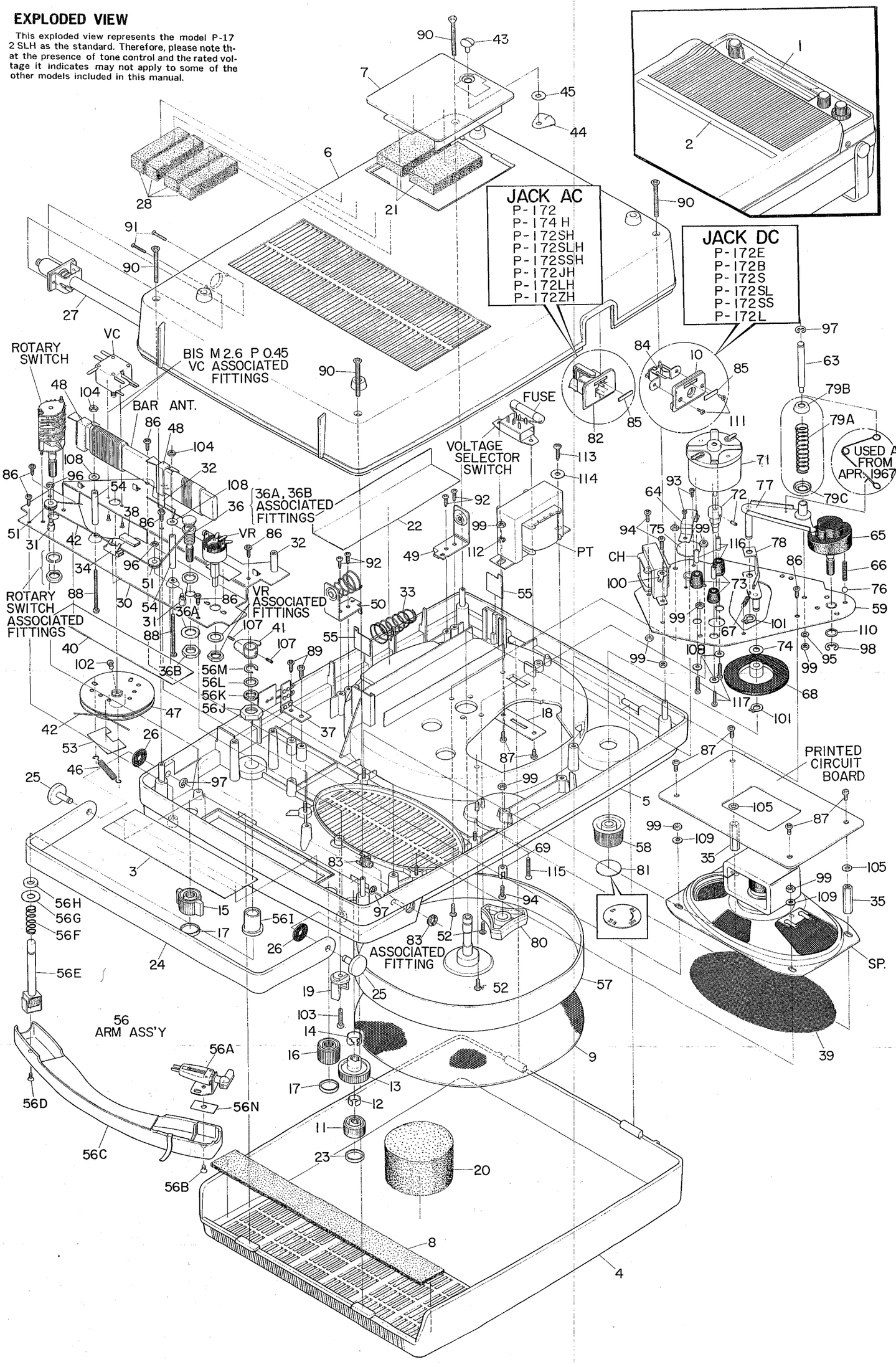
REF. No.	DESCRIPTION	PARTS No. (QUANTITY)																																	
		P-172 SL		P-172 SLH		P-172		P-172 B		P-172 L		P-172 LH		P-172 ZH		P-172 E		P-172 S		P-172 SH		P-172 JH		P-172 SS		P-172 SSH		P-174		P-174 H	
1	Escutcheon	4161005	1	〃	1	4155021	1	〃	1	4159015	1	〃	1	4165001	1	4156005	1	4155004	1	〃	1	〃	1	4163004	1	〃	1	4155021	1	〃	1
2	Name plate	4161002	1	〃	1	4155009	1	〃	1	4159006	1	〃	1	4165002	1	4156002	1	4155502	1	〃	1	〃	1	4163002	1	〃	1	4164005	1	〃	1
3	Dial board	4161003	1	〃	1	4155008	1	〃	1	4159007	1	〃	1	4165003	1	4156001	1	4155501	1	〃	1	4157001	1	4163001	1	〃	1	4155008	1	〃	1
4	Case proper A	4159001	1	〃	1	4155001	1	〃	1	4159001	1	〃	1	〃	1	4164007	1	4155001	1	〃	1	4159001	1	4155001	1	〃	1	4164008	1	〃	1
5	Case proper B	4159016	1	〃	1	4155024	1	〃	1	4159016	1	〃	1	4155024	1	〃	1	〃	1	〃	1	4159016	1	4155024	1	〃	1	4164011	1	〃	1
6	Case proper C	4159003	1	〃	1	4155003	1	〃	1	4159003	1	〃	1	〃	1	4164003	1	4155003	1	〃	1	4159003	1	4155003	1	〃	1	4164009	1	〃	1
7	Battery room lid	4159004	1	〃	1	4155004	1	〃	1	4159004	1	〃	1	〃	1	4164004	1	4155004	1	〃	1	4159004	1	4155004	1	〃	1	4164010	1	〃	1
8	Arm cushion	4159008	1	〃	1	4155017	1	〃	1	4159008	1	〃	1	〃	1	4164006	1	4155017	1	〃	1	4159008	1	4155017	1	〃	1	4164013	1	—	0
9	Turntable cover	4159009	1	〃	1	4155302	1	〃	1	4159009	1	〃	1	〃	1	4155302	1	〃	1	〃	1	4159009	1	4155302	1	〃	1	4164014	1	〃	1
10	Jack holder (DC)	7064013	1	—	0	—	0	7064012	1	7064013	1	—	0	—	0	7064014	1	7064012	1	—	0	—	0	7064012	1	—	0	—	0	—	0
11	Volume control knob	4155512	1	〃	1	—	0	—	0	4155512	1	Same as left																			
12	Spring, Control knob	4155513	1	〃	1	—	0	—	0	4155513	1																				
13	Tone control knob	4155514	1	〃	1	—	0	—	0	4155514	1																				
14	Spring, Volume control knob	4155516	1	〃	1	—	0	—	0	4155513	1																				
15	Knob A	4155005	1	〃	1	〃	1	〃	1	〃	1	〃	1	Same as left														4155005	1	〃	1
16	Knob B	4155006	1	〃	1	〃	2	〃	2	〃	1	〃	1															4155006	2	〃	2
17	Knob cap A	4155007	2	〃	2	〃	2	〃	2	〃	2	〃	2															4155007	2	〃	2
18	Name plate, Voltage Selector Switch	—	0	7054022	1	—	0	—	0	—	0	7054022	1	7054022	1	—	0	—	0	7054022	1	〃	1	—	0	7054022	1	—	0	7054022	1
19	Arm rest	4155014	1	Same as left																								4155014	1	〃	1
20	Cushion, Turntable	4155022	1																									4164014	1	〃	1
21	Battery cushion A	4155016	1	〃	1	〃	2	〃	2	--	0	〃	2	〃	2	〃	4	Same as left													
22	Battery supporter	4155018	1	Same as left																											
23	Knob cap B	4155020	1																												
24	Carrying handle	4160001	1																												
25	Cap screw, Handle mount'g	4160002	2																												
26	Felt washer	4160003	2																												
27	Whip antenna	1406007	1																												
28	Battery cushion B	4155023	4																												
29	Chassis ass'y	4155251	1	〃	1	4155201	1	〃	1	4155251	1	〃	1	4155251	1	4155201	1	Same as left													
30	Chassis	4155252	1	〃	1	4155202	1	〃	1	4155252	1	〃	1	4155252	1	4155202	1														
31	Roller shaft	4155203	2	Same as left																											
32	Chassis support B	4155204	2																												
33	Battery terminal spring	4155206	1																												
34	Tuning dial pointer	4155207	1																												
35	Chassis support A	4155208	2	〃	2	〃	2		2	〃	2	〃	2	〃	2	〃	2	4155500	1	〃	1	〃	1	4155208	1	〃	1	〃	2	〃	2
36	Tuning shaft ass'y	4155209	1	Same as left																											
37	Switch ass'y	4155210	1																												
38	Tuning pointer base, Movable	4155218	1																												
39	Speaker mesh	4155219	1	〃	1	〃	1	〃	1	〃	1	〃	1	4155210	1	4155219	1	Same as left													
40	Back plate	4155220	1	〃	1	〃	1	〃	1	〃	1	〃	1	4165005	1	4155220	1														
41	Arm switch cam 3 ass'y	4155225	1	Same as left																											
42	Drive-string, Tuning	4155230	1																												
43	Lock screw, Btry rm. lid	1113114	1																												
44	Lock metal, Btry rm. lid	1113115	1																												
45	Washer	1113116	1																												
46	Drum spring	1113111	1																												
47	Drum	4161201	1	〃	1	〃	1	〃	1	〃	1	〃	1	1140107	1	〃	1	〃	〃	〃	1	4161201	1	〃	1	〃	1	1140107	1	〃	1
48	Core holder	7064019	2	Same as left																											
49	Terminal plate (+)	1113107	1																												
50	Terminal plate (−)	1113108	1																												
51	Roller	1302107	2																												

REF. No.	DESCRIPTION	PARTS No.	(QUANTITY)																																	
		P-172 SL		P-172 SLH		P-172		P-172 B		P-172 L		P-172 LH		P-172 ZH		P-172 E		P-172 S		P-172 SH		P-172 JH		P-172 SS		P-172 SSH		P-174		P-174 H	
52	Setscrew, Mechanism chassis	1451104	3	Same as left																																
53	Spring cuchion	1113013	1																																	
54	Collr	1229128	2																																	
55	Battery terminal plate	7038018	2																																	
57	Turntable ass'y	4155353	1																																	
58	Selector knob, Speed	4155303	1																																	
59	Mechanism chassis ass'y	4155304	1																																	
60	Mechanism chassis	4155305	1																																	
61	Shaft bearing	4155306	1																																	
62	Bushing	4155307	1	Same as left																																
63	Lever shaft B	4155319	1																																	
64	Turntable shaft holder	4155320	1																																	
65	Cam	4155325	1																																	
66	Spring B	4155328	1																																	
67	Spring C	4155329	1																																	
68	Idler	4155330	1																																	
69	Screw anchor	4155334	1																																	
70	Motor ass'y	4155341	1	〃	1	〃	1	1	1	〃	1	〃	1	〃	1	〃	1	0616181	1	〃	1	〃	1	〃	1	〃	1	4155341	1	〃	1					
71	Motor	4155337	1																																	
72	Pulley	4155338	1	Same as left																																
73	Rubber bushing	4155340	3																																	
74	Nylon washer	2710240	2																																	
75	Fibre pad	2710237	1																																	
76	Steel ball	2710139	1																																	
77	Actuating lever ass'y	4155361	1																																	
78	Idler lever ass'y	4155322	1																																	
79	Actuating lever spring	4155364	1																																	
79A	Spring A	4155327	1																																	
79B	Pressure washer A	4155326	1																																	
79C	Pressure washer B	4155335	1																																	
80	Adaptor	7053008	1																																	
81	Name Plate, RPM indicati'g	4155365	1																																	
82	AC jack	—	0	7032220	1	7032221	1	—	0	—	0	7032220	1	〃	1	—	0	—	0	7032221	1	7032220	1	—	0	7032220	1	7032233	1	〃	1					
83	Earphone jack	7032029	1	Same as left																																
84	DC jack	1302321	1	—	0	—	0	1302320	1	〃	1	—	0	—	0	1302320	1	1302321	1	—	0	—	0	1302320	1	—	0	—	0	—	0					
85	Voltage indicating plate	7054024	1	7054006	1	7054005	1	7054024	1	〃	1	7054006	1	7054024	1	〃	1	〃	1	7054006	1	〃	1	〃	1	7054006	1	7054005	1	7054006	1					
86	Bind tapping screw, VT2+3−8	7343095	7	Same as left																																
87	Bind screw, V+3−6	7253094	4	〃	6	〃	4	〃	4	〃	4	〃	6	〃	6	〃	4	〃	4	〃	6	〃	6	〃	4	〃	6	〃	4	〃	6					
88	Pan-head screw, V+2.6−35	7081029	2	Same as left																																
89	Bind tapping screw, VT2+2.6−6	7343073	3	〃	3	〃	3	〃	3	〃	3	〃	3	〃	2	〃	2	〃	2	〃	2	〃	2	〃	2	〃	2	〃	3	〃	3					
90	Countersunk round screw, P+3−30	7223104	4	Same as left																																
91	Countersunk round screw, P+2−12	7223038	2																																	
92	Bind tapping screw, VT2+2.6−8	7343074	4	Same as left																																
93	Pan-head screw, V+2.6−5	7263072	2																																	
94	Pan-head screw, V+3−8	7263095	3																																	
95	Spring washer, WS−3	7421306	1	〃	1	〃	2	—	0	7421306	1	〃	1	〃	1	〃	1	〃	1	〃	1	〃	1	〃	1	〃	1	〃	2	〃	2					
96	"E" washer, STE−2.3	7441006	2	Same as left																																
97	"E" washer, STE−3.2	7441010	3																																	
98	"E" washer, STE−4	7441011	1																																	
99	Nut, N−3−3	7391019	9	〃	9	〃	10	〃	10	〃	10	〃	10	〃	9	〃	9	〃	9	〃	9	〃	9	〃	9	〃	9	〃	10	〃	10					
100	Lug plate, Oval type, L−B4	7450414	2	〃	2	〃	1	〃	2	〃	2	〃	2	〃	1	〃	1	〃	1	〃	1	〃	1	〃	1	〃	1	〃	2	〃	2					
101	Powerful stop ring, STP−5	7442005	2	Same as left																																

REF. No.	DESCRIPTION	PARTS No. (QUANTITY)																															
		P-172 SL		P-172 SLH		P-172		P-172 B		P-172 L		P-172 LH		P-172 ZH		P-172 E		P-172 S		P-172 SH		P-172 JH		P-172 SS		P-172 SSH		P-174		P-174 H	
102	Pan-head screw, V+3−6	7263094	1	} Same as left																													
103	Pan-head tapping screw, VT2+3-15	7352099	1																														
104	Nut, N-2.6	7391113	2			4	〃																										
105	Fibre washer, WF3-6-0.5	7081013	4	〃		2	7034008	4	〃	4	〃	4	〃	4	〃	4	〃	4		2	〃	2	〃	2	—	0	—	0	7081013	4	〃	4	
106	AC cord	—	0	7034004	1	〃		1	〃	1	—	0	7034004	1	〃	1	—	0	—	0	7034004	1	〃	1	—	0	—	0	7034008	1	7054006	1	
107	Grooved setscrew, SS-3-4	7371092	2	} Same as left																													
108	Flat washer, W-2.6-7.5-0.5	7371011	2																														
109	Flat washer, W-3-8-0.5	7371015	2	〃		2	〃	2	〃	2	〃	2	〃	2	〃	2	〃	2	—	0	7371015	2	〃	2	〃	2	〃	2	〃	2	〃	2	
110	Flat washer, W-6.5-9-0.1	7081027	1	Same as left																													
111	Countersunk round screw, P+2-5	7223034	2	—		0	—	0	7223034	1	〃	1	—	0	〃	0	7223034	2	〃	2	—	0	—	0	7223034	2	—	0	7223034	2	—	0	
112	Spring washer, WS-3	—	0	7421306	1	〃		1	—	0	—	0	7421306	1	〃	1	—	0	Same as left														
113	Bind tapping screw, VT2+3-10	—	0	7343096	1	〃		1	—	0	—	0	7343096	1	〃	1	—	0	—	0	—	0	7343096	1	—	0	—	0	7343096	0	—	0	
114	Washer, W-3-10-0.8	—	0	7410317	1	〃		1	—	0	—	0	7410317	1	〃	1	—	0	—	0	—	0	7410317	1	—	0	—	0	—	0	—	0	
115	Countersunk round screw, Q+3-18	—	0	7233101	1	〃		1	—	0	—	0	7233101	1	〃	1	—	0	—	0	7233101	1	〃	1	—	0	7233101	1	〃	1	〃	1	
116	Motor collar	4155366	3	} Same as left																													
117	Pan-head screw, V+26−12	7263076	3																														
56	Pick-up arm ass'y	0610180	1	〃		1	〃	1	0610181	1	0610180	1	〃	1	〃	1	0610184	1	0610181	1	〃	1	0610180	1	0610181	1	〃	1	0610183	1	0610184	1	
56A	Cartridge	0620580	1	〃		1	〃	1	0620880	1	0620580	1	〃	1	〃	1	0620880	1	〃	1	〃	1	0620580	1	0620880	1	〃	1	0620480	1	0620880	1	
56B	Set screw A	7224093	1																														
56C	Arm	6101002	1													1	6101041	1	6101002	1	〃	1	〃	1	〃	1	〃	1	6101041	1	〃	1	
56D	Set screw B	7224094	1																														
56E	Arm shaft	6101028 6101029	1																														
56F	Spring	6101030	1																														
56G	Washer A	6101040	1																														
56H	Cushion (felt) A	6101033	1	} Same as left																													
56 I	Base bearing	6101031	1																														
56J	Nut	6103010	1																														
56K	Cushion (felt) B	6101034	1																														
56L	Washer B	6101032	1																														
56M	Stop ring	6101025	1																														
56N	Weight	6101046	1																														

EXPLODED VIEW

This exploded view represents the model P-17 2 SLH as the standard. Therefore, please note that the presence of tone control and the rated voltage it indicates may not apply to some of the other models included in this manual.



P-172 L, LH, ZH

ELECTRICAL PARTS

DESCRIPTION	PART No.	SYMBOL No. (QUANTITY) P-172 L		P-172 LH		P-172 ZH	
Main printed circuit board	4159601		1		1		1
Printed circuit board, FM tuner	4155602		1		1		1
Variable condenser	4159602	TC 1,3~5 VC 1~4	1	TC 1,3~5 VC 1~4	1	TC 1,3~5 VC 1~4	1
Ferrite bar antenna coil	4159603	L 4,5	1	L 4,5	1		
〃	4165601				1	L 4.5	1
Speaker	4155605	SP	1	SP		SP	1
Rotary switch	4159604	S 1~11	1	S 1~11	1	S 1~11	1
Variable resister	4155660	VR 1,2 S 12	1	VR 1,2 S 12	1	VR 1,2 S 12	1
Trimming capacitor	1229307	TC 2,6	2	TC 2,6	2	TC 2	1
FM coil	7006004	L 1,2	2	L 1,2	2	L 1,2	1
Choke coil	4155608	CH	1	CH	1	CH	1
FM IFT 1 st step	1436305	IFT 1	1	IFT 1	1	IFT 1	1
FM IFT 2 nd, 3 rd steps	1245307	IFT 2,3	2	IFT 2,3	2	IFT 2,3	2
FM IFT 4 th step	1245308	IFT 4	1	IFT 4	1	IFT 4	1
FM IFT 5 th step	1245309	IFT 5	1	IFT 5	1	IFT 5	1
AM OSC coil	4159605	L 6	1	L 6	1	L 6	1
LW OSC coil	4159606	L 7	1	L 7	1		
AM IFT 6 th step	1245310	IFT 6	1	IFT 6	1	IFT 6	1
AM IFT 7 th step	1245311	IFT 7	1	IFT 7	1	IFT 7	1
AM IFT 8 th step	1245312	IFT 8	1	IFT 8	1		
〃	1154309					IFT 8	1
FM choke coil	7005022	L 3	1	L 3	1	L 3	1
Input transformer	1451315	T 1	1	T 1	1	T 1	1
Output transformer	1451316	T 2	1	T 2	1	T 2	1
Transistor	8030562	TR 1	1	TR 1	1	TR 2	1
〃	8030561	TR 2	1	TR 2	1	TR 1	1
〃	8014712	TR 4	1	TR 4		TR 4	1
〃	8014711	TR 5.6	2	TR 5.6	2	TR 5.6	2
〃	8024700	TR 3.7,8	3	TR 3,7,8	3	TR 3,7.8	3
〃	8022630	TR 9,10	2	TR 9,10	2	TR 9,10	2
Diode	8051060	D 1~4	4	D 1~4	4	D 1~4	4
Thermister	8064470	TH	1	TH	1	TH	1
Power transformer	7004010			T 3	1	T 3	1
Silicon diode	7027005			D 5,6	2	D 5,6	2
AC voltage selector switch	7031058			S 13	1	S 13	1
Fuse	1470630			FUSE	1		
〃	7035028					FUSE	1
Circuit board, trimming capacitor	4165602						1
Trimming capacitor	7011012					TC 9	1

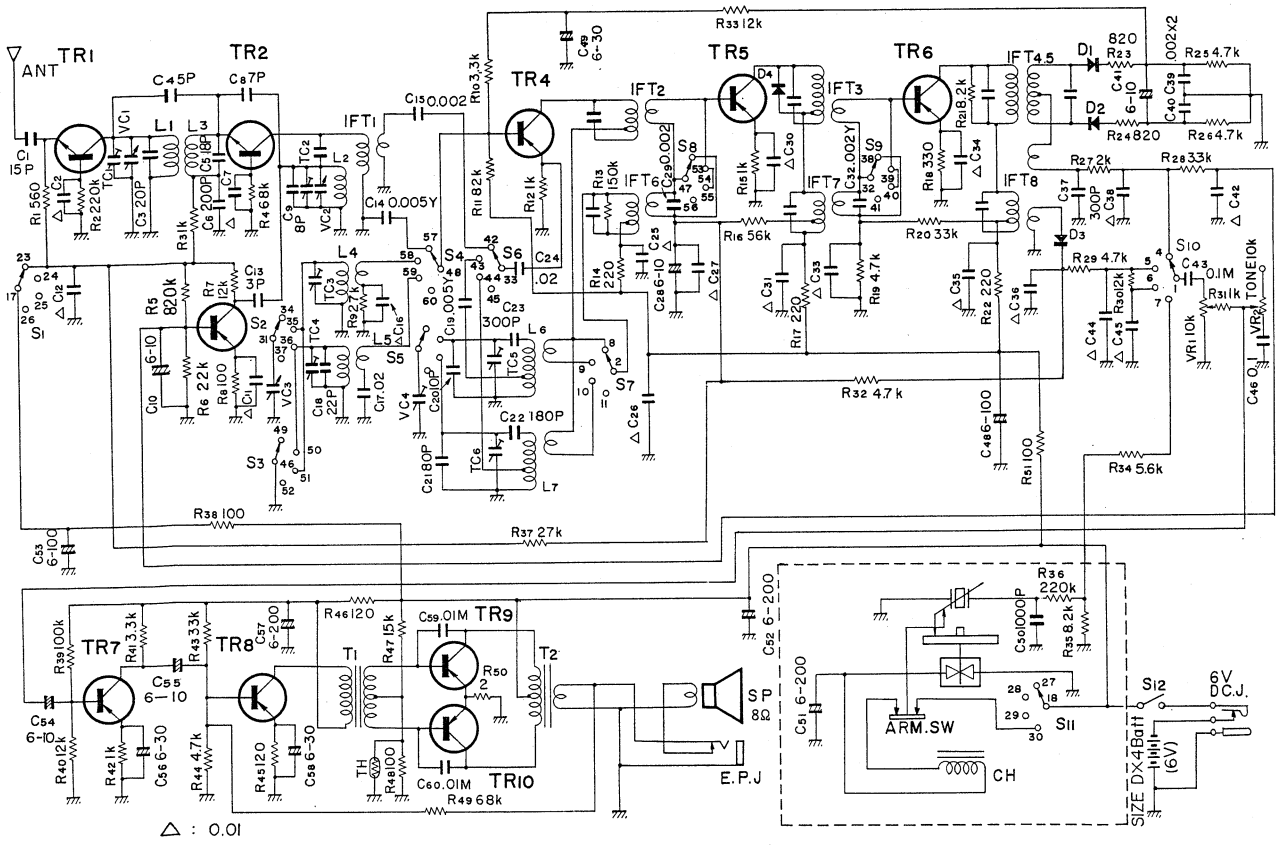
DESCRIPTION	PART No.	SYMBOL No. (QUANTITY) P-172 L		P-172LH		P-172 ZH	
Earphone jack	7032029	EP.J	1	EP.J	1	EP. J	1
Nut, earphone jack	7081005		1		1		1
SW OSC coil	4165603					L 7	1
Wire kit	4159607		1		1		
〃	4159608		1		1		
〃	4165701						1
〃	4165702						1
〃	4159609		1		1		
〃	4159610		1		1		
〃	4157635				1		

DESCPIPTION		PART No.	QUANTITY P-172 L	P-172 LH	P-172 ZH
Ceramic capasitor	3 〃	8213030	1	1	2
〃	4 〃	8213040			1
〃	5 〃	8213050	1	1	1
〃	7 〃	8213070	1	1	2
〃	8 〃	8213080	1	1	2
〃	10 〃	8212100	1	1	
〃	15 〃	8212150	1	1	2
〃	18 〃	8212180	2	2	1
〃	22 〃	8212210			1
〃	25 〃	8212220	1	1	
〃	60 〃	8212320			3
〃	200 〃	8212470	1	1	2
〃	300 〃	8212510	1	1	1
〃	0.002 μF	8215650			2
〃	0.005 〃	8215720			1
〃	0.01 μF	8205810	17	17	16
〃	0.02 〃	8205830	3	3	1
〃	YY 0.001 μF	8214610	1	1	1
〃	YY 0.002 〃	8214650	5	5	2
〃	YY 0.005 〃	8214720	2	2	2
〃	0.1 〃	8215910	1	1	1
〃	82 〃	8212350	1	1	
Mylar film capacitor	0.01 μF	8727810	2	2	2
〃	0.1 〃	8727910	1	1	1
Chemical capacitor	BD 10 μF	8332110	5	5	5
〃	〃 30 〃	8332310	3	3	3
〃	〃 50 〃	8332510			
〃	〃 100 〃	8332120	2	2	2
〃	〃 200 〃	8332220	2	1	1
〃	〃 500 〃	8332520		3	3
〃	CD 500 〃	8432520			
〃	〃 1000 〃	8432130			
〃	〃 200 〃	8432220	1	1	1
Polystyrene capacitor	180 PF	8617460	1	1	
〃	300 〃	8517510	1	1	
〃	51 〃	8617300			1
〃	60 〃	8617320			2
〃	270 〃	8617500			1

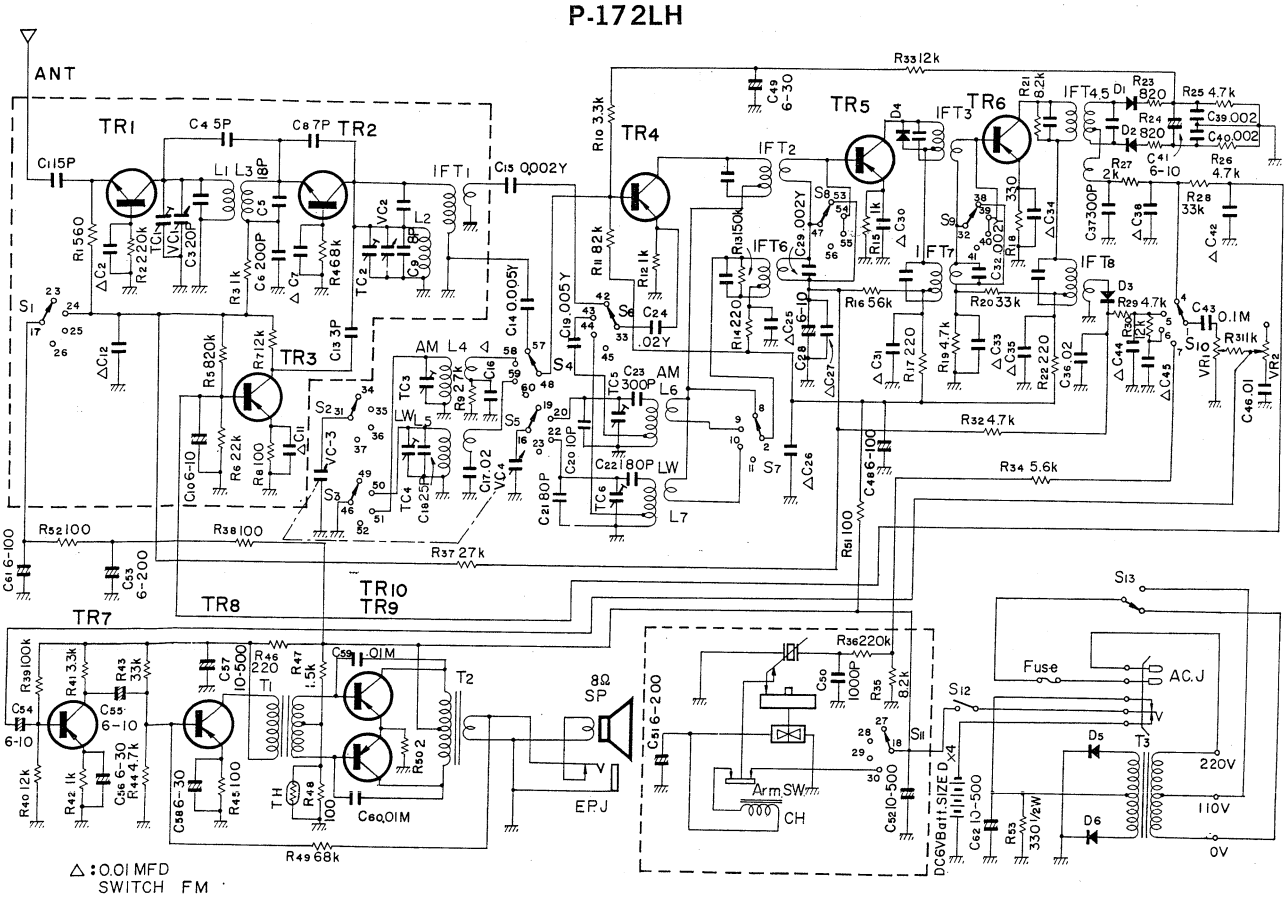
DESCRIPTION		PART No.	QUANTITY		
			P-172 L	P-172 LH	P-172 ZH
Fixed carbon resistor 1/4 W±10%	2 ohm	8120209	1	1	1
〃	100 〃	8120101	4	5	5
〃	120 〃	8120121	2	2	
〃	150 〃	8120151	1	1	1
〃	220 〃	8120221	3	3	4
〃	330 〃	8120331	1	2	1
〃	560 〃	8120561	1	1	2
〃	680 〃	8120681			1
〃	820 〃	8120821	2	2	2
〃	1 K 〃	8120102	5	5	4
〃	1.5 K 〃	8120152	1	1	
〃	1.8 K 〃	8120182			1
〃	2.0 K 〃	8120202	1	1	1
〃	3.3 K 〃	8120332	2	2	3
〃	4.7 K 〃	8120472	6	6	4
〃	5.6 K 〃	8120562	1	1	2
〃	8.2 K 〃	8120822	2	2	1
〃	10 K 〃	8120803			1
〃	12 K 〃	8120123	3	3	3
〃	22 K 〃	8120223	2	2	1
〃	27 K 〃	8120273	2	2	1
〃	33 K 〃	8120333	3	3	3
〃	47 K 〃	8120473			1
〃	56 K 〃	8120563	1	1	
〃	68 K 〃	8120683	2	2	2
〃	82 K 〃	8120823	1	1	2
〃	100 K 〃	8120104	2	2	2
〃	220 K 〃	8201224	2	2	2
〃	470 K 〃	8201474	1		
〃	820 K 〃	8201824	1	1	1
Fixed carbon resistor 1/2W ±20%	330 K 〃	8144331		1	1

SCHEMATIC CIRCUIT DIAGRAM-P-172L, LH, ZH

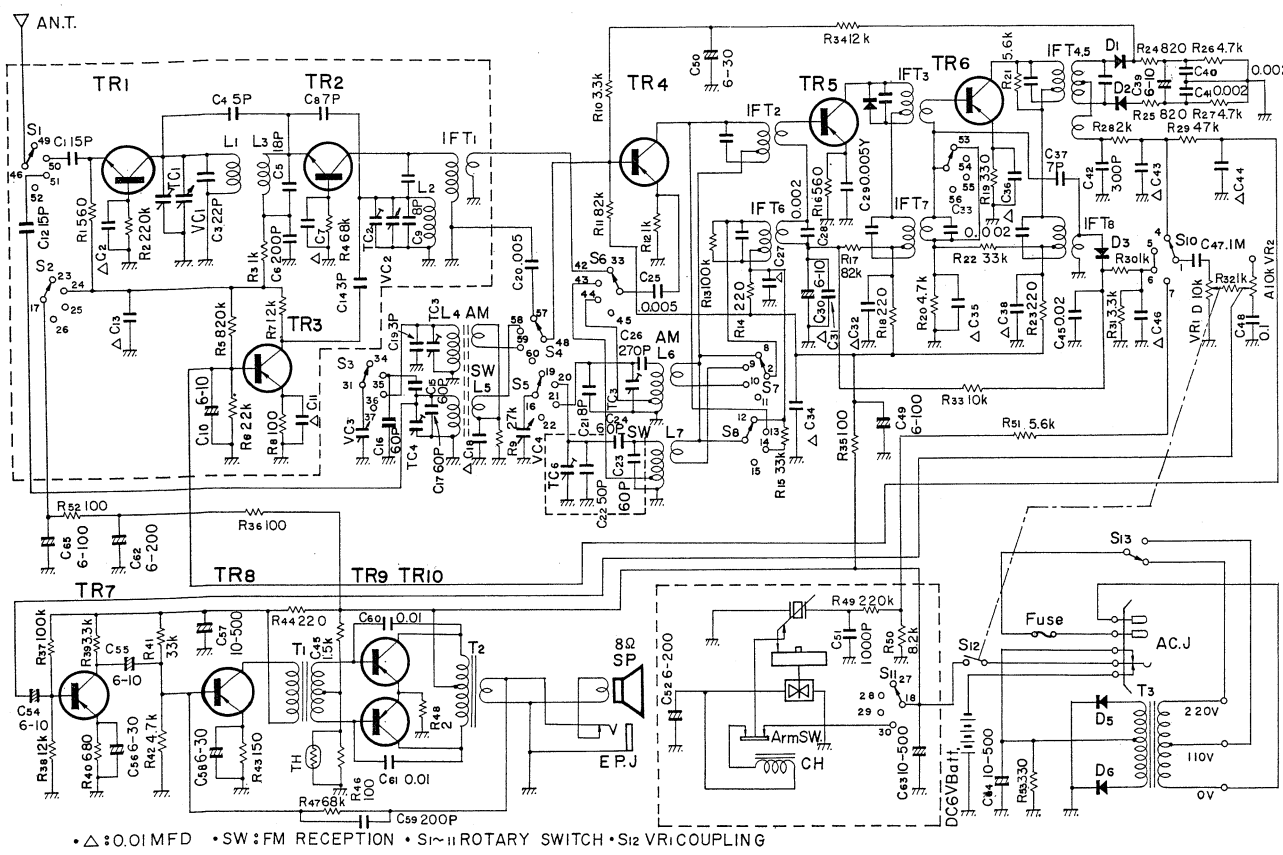
P-172L



P-172LH



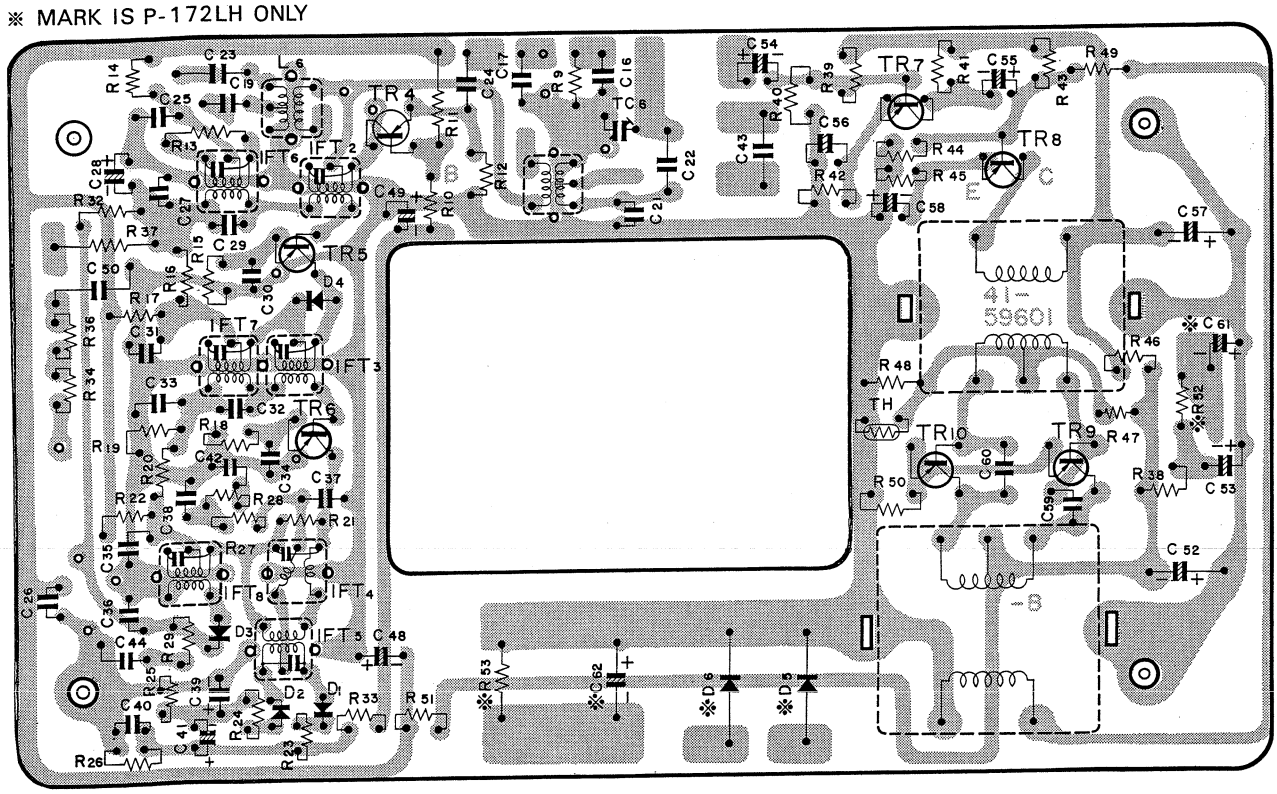
P-172ZH



PRINTED CIRCUIT BOARD P-172 L, LH, ZH

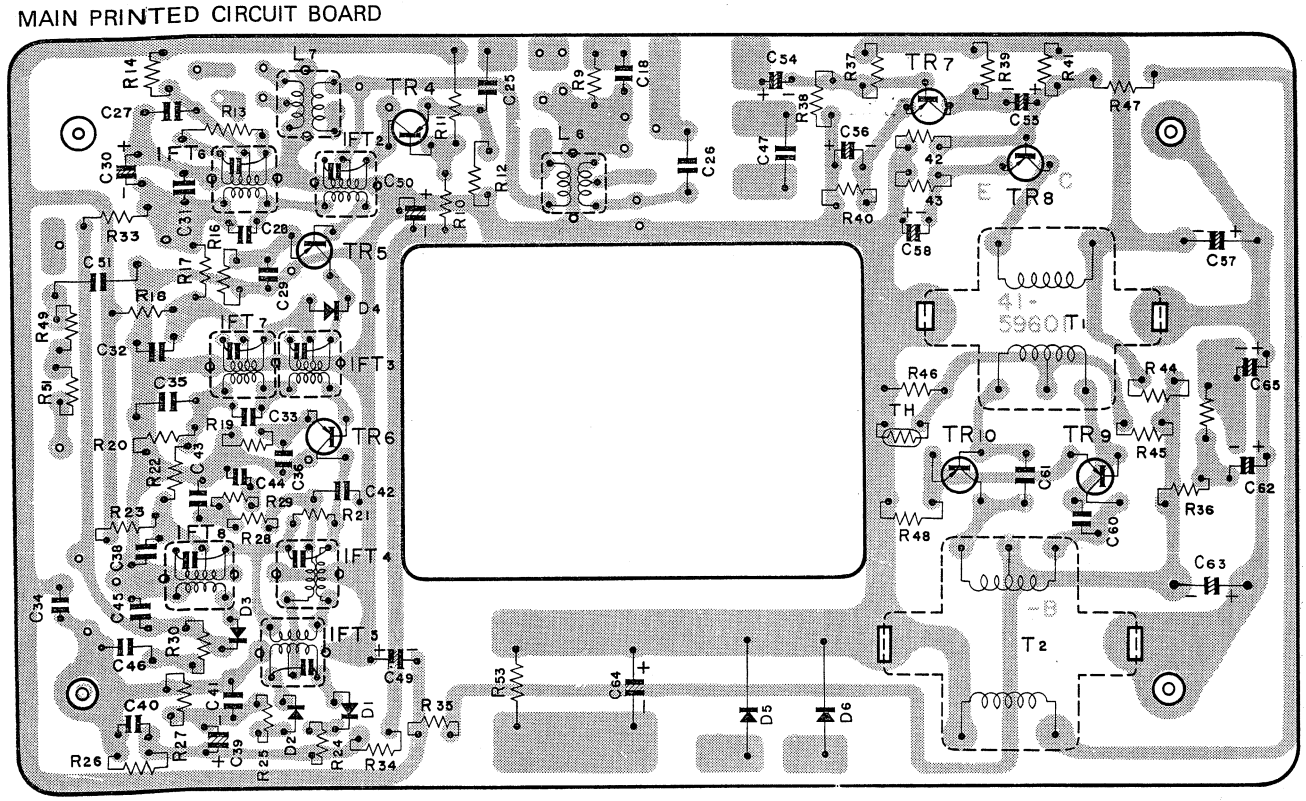
(P-172L, LH)

※ MARK IS P-172LH ONLY



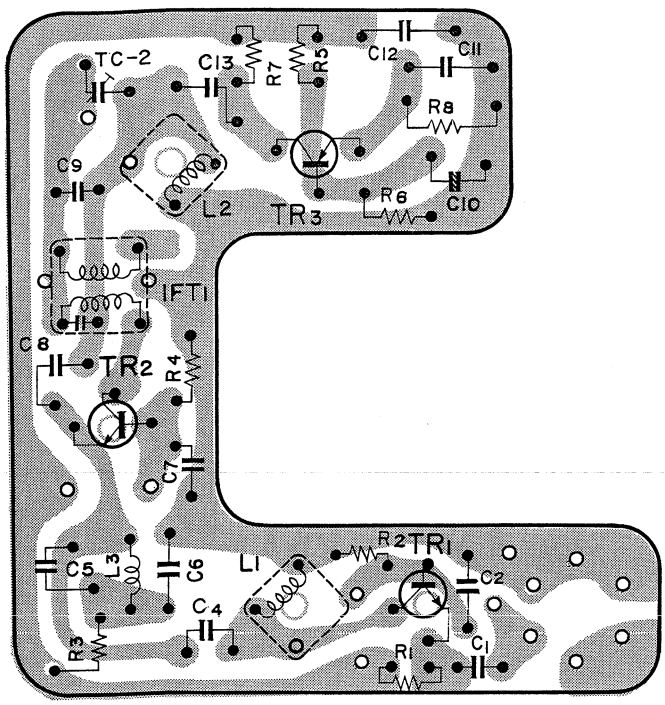
P-172ZH

MAIN PRINTED CIRCUIT BOARD



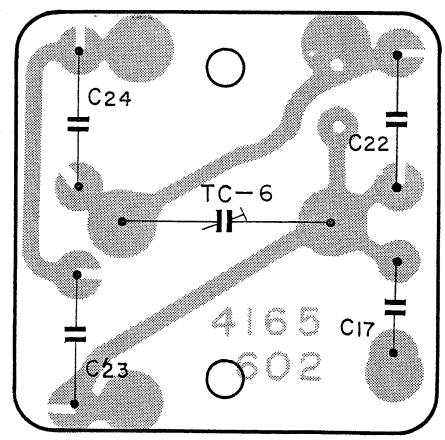
P-172L, LH, ZH

TUNER PRINTED CIRCUIT BOARD

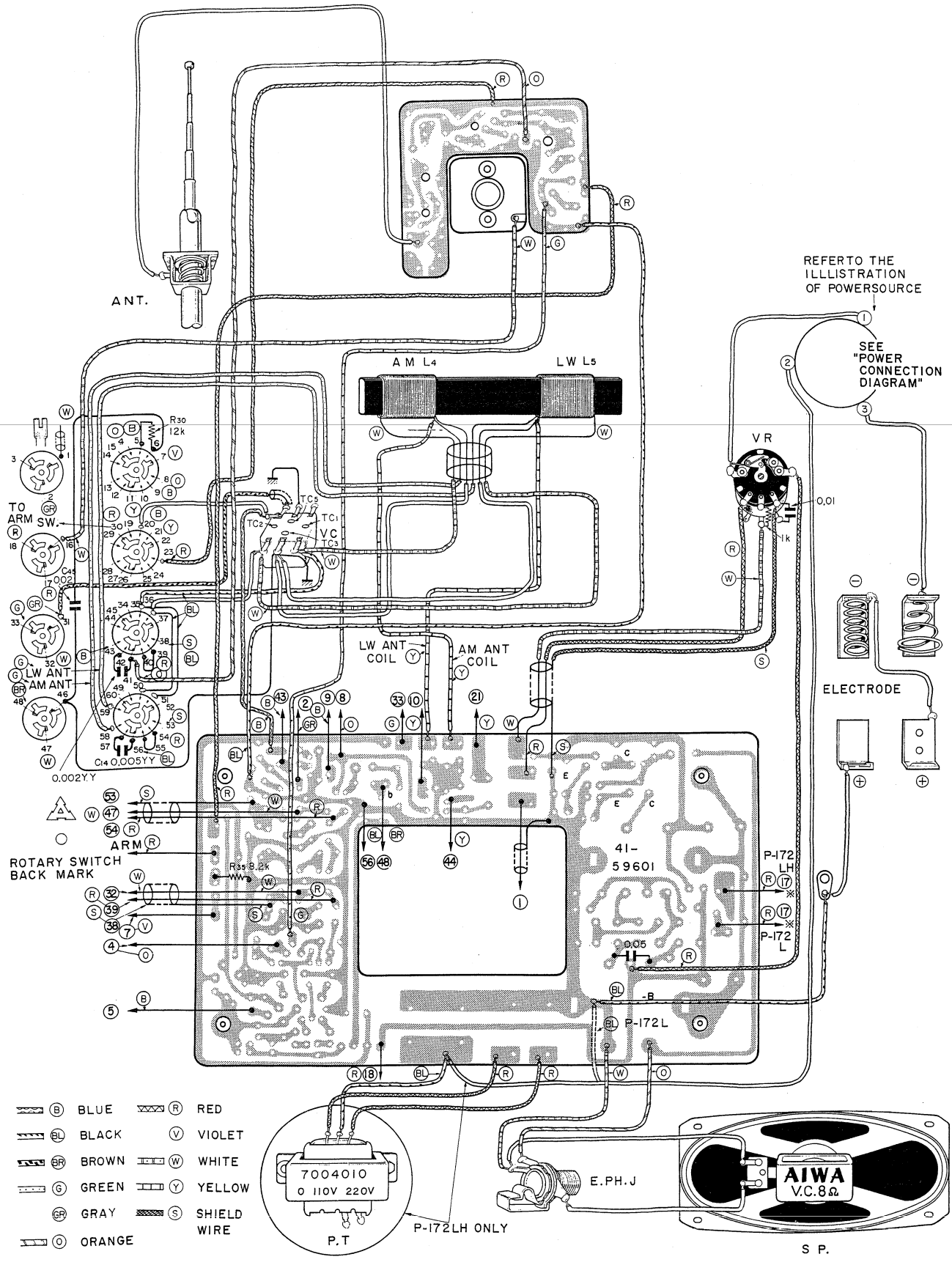


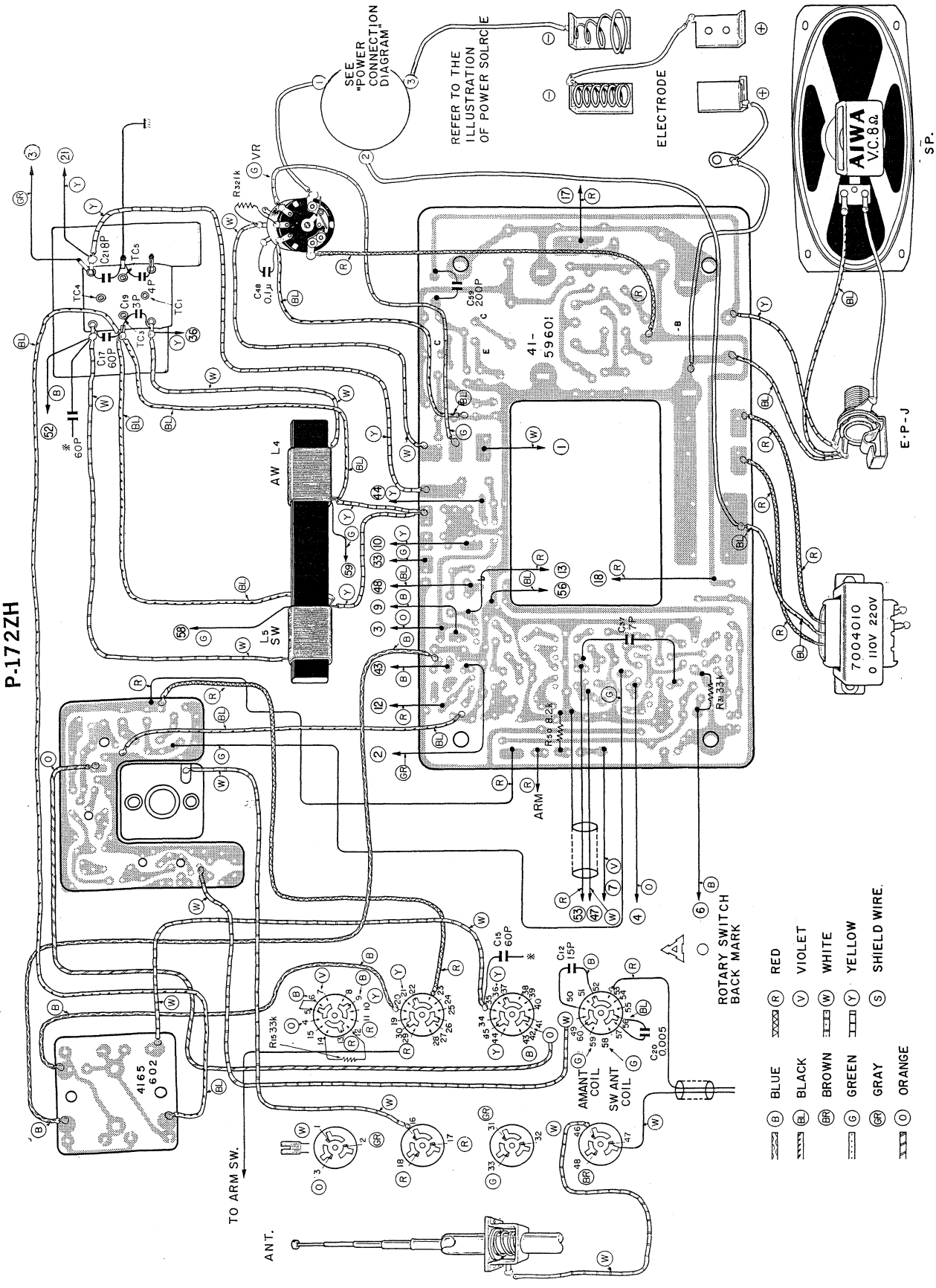
P-172ZH

TRIMMER PRINTED CIRCUIT BOARD



P-172L, LH


ANT.
AM L4
LW L5
REFERTO THE ILLLISTRATION OF POWERSOURCE
SEE "POWER CONNECTION DIAGRAM"
VR
0.01
1k
TO ARM SW.
R30 12k
TC1
TC2
TC3
VC
C45 0.002
LW ANT
AM ANT
LW ANT COIL
AM ANT COIL
ELECTRODE
C14 0.005YY
0.002Y.Y
ARM
ROTARY SWITCH BACK MARK
R35 8.2k
41-59601
P-172 LH
P-172 L
0.005
P-172L
7004010
0 110V 220V
P.T
P-172LH ONLY
E.PH.J
AIWA V.C.8Ω
S P.
B BLUE
R RED
BL BLACK
V VIOLET
BR BROWN
W WHITE
G GREEN
Y YELLOW
GR GRAY
S SHIELD WIRE
O ORANGE


P-172ZH
SEE "POWER CONNECTION DIAGRAM"
REFER TO THE ILLUSTRATION OF POWER SOURCE
ELECTRODE
AIWA VC.8Ω
SP.
E-P-J
7004010
0 110V 220V
AW L4
L5 SW
41-5960!
4165 602
TO ARM SW.
ANT.
ARM
ROTARY SWITCH BACK MARK
AMANT COIL
SW ANT COIL
B BLUE
R RED
BL BLACK
V VIOLET
BR BROWN
W WHITE
G GREEN
Y YELLOW
GR GRAY
S SHIELD WIRE
O ORANGE

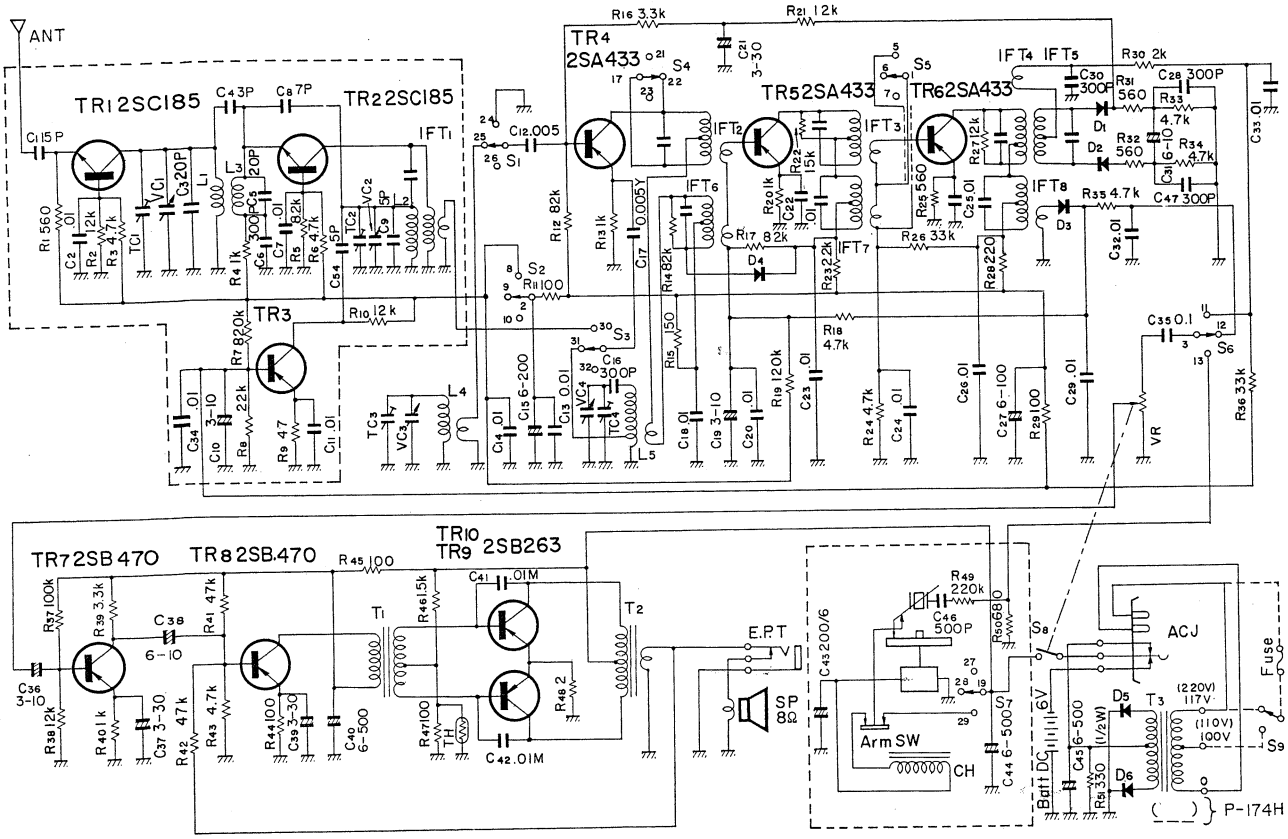
ELECTRICAL PARTS

DESCRIPTION	PART No.	SYMBOL No. (QUANTITY)							
		P-172		P-172B		P-174		P-174H	
Main printed circuit board	4155601		1		1		1		1
Printed circuit board, FM tuner	4155602		1		1		1		1
Variable condenser	4155603	TC1~4 VC1~4	1	TC1~4 VC1~4	1	TC1~4 VC1~4	1	TC1~4 VC1~4	1
Ferrite bar antenna coil	4155604	L4	1	L4	1	L4	1	L4	1
Speaker	4155605	SP	1	SP	1	Sp	1	Sp	1
Rotary switch	4155606	S1~7	1	S1~7	1	S1~7	1	S1~7	1
Variable resister	4155607	VR, S8				VR, S8	1	VR, S8	1
FM RF coil	7006004	L1	1	L1	1	L1	1	L1	1
FM OSC coil	7006003	L2	1	L2	1	L2	1	L2	1
FM IFT 1st step	1436305	IFT1	1	IFT1	1	IFT1	1	IFT1	1
FM IFT 2nd, 3rd steps	1245307	IFT2, 3	2	IFT2, 3	2	IFT2, 3	2	IFT2, 3	2
FM IFT 4th step	1245308	IFT4	1	IFT4	1	IFT4	1	IFT4	1
FM IFT 5th step	1245309	IFT5	1	IFT5	1	IFT5	1	IFT5	1
AM OSC coil	1245305	L5	1	L5	1	L5	1	L5	1
AM IFT 6th step	1245310	IFT6	1	IFT6	1	IFT6	1	IFT6	1
AM IFT 7th step	1245311	IFT7	1	IFT7	1	IFT7	1	IFT7	1
AM IFT 8th step	1245312	IFT8	1	IFT8	1	IFT8	1	IFT8	1
FM choke coil	1245319	L3	1	L3	1	L3	1	L3	1
Input power transformer	1451315	T1	1	T1	1	T1	1	T1	1
Output power transformer	1451316	T2	1	T2	1	T2	1	T2	T
Radiation plate	1251319		2		2		2		2
Transistor	8031850	TR1, 2	2	TR1, 2	2	TR1, 2	2	TR1, 2	2
〃	8014711	TR5, 6	2	TR5, 6	2	TR5, 6	2	TR5, 6	2
〃	8014712	TR4	1	TR4	1	TR4	1	TR4	1
〃	8024700	TR3, 7, 8	3	TR3, 7, 8	3	TR3, 7, 8	3	TR3, 7, 8	3
〃	8022630	TR9, 10	2	TR9, 10	2	TR9, 10	2	TR9, 10	2
Thermister	8064261	TH	1	TH	1	TH	1	TH	1
Silicon diode	7027005	D5, 6	2			D5, 6	2	D5, 6	2
Diode	8052446	D1~4	4	D1~4	4	D1~4	4	D1~4	4
Fuse	1470630							EUSE	1
power transformer	7004030	T3	1			T3	1		
〃	7004010							T3	1
Choke coil	4155608	CH	1	CH	1	CH	1	CH	1
AC voltage selector switch	7031058							S9	1
Earphone jack	7032029	EP. J	1	EP. J	1	EP. J	1	EP. J	1
Nut, earphone jack	7081005		1		1		1		1
Wire kit	4155609		1				1		
〃	4160301				1				
〃	7021109				1				
〃	4155699								1

DESCRIPTION		PART No.	QUANTITY			
			P-172	P-172 B	P-174	P-174H
Ceramic capacitor	5PF	8213050	1	1	1	1
〃	6 〃	8213060	2	2	2	2
〃	7 〃	8213070	1	1	1	1
〃	15 〃	8212150	2	2	2	2
〃	20 〃	8212200	2	2	2	2
〃	300 〃	8212510	2	2	2	2
〃	470 〃	8212550	1	1	1	0
〃	0.005μF	8215720	1	1	1	1
〃	0.01 〃	8205810	17	17	17	17
〃	YY0.005μF	8217720	1	1	1	1
〃	0.0015μF	8215630				1
Mylar film capacitor	0.01μF	8727810	2	2	2	2
〃	0.1 〃	8727910	1	1	1	1
Chemical capacitor	10μF	8332110	5	5	5	5
〃	30 〃	8332310	3	3	3	3
〃	100 〃	8332120		2		
〃	200 〃	8332220	2	2	3	3
〃	500 〃	8332520	3	0		
〃	CD500 〃	8432520			3	3
〃	CD200 〃	8432220	1	1	1	1
Polystyrene capacitor	130PF	8619430	1	1	1	1
Fixed carbon resistor 1/4 W ±10%	2ohm	8120209	1	1	1	1
〃	100 〃	8120101	4	5	4	4
〃	150 〃	8120151	1			
〃	220 〃	8120221	3	3	3	3
〃	330 〃	8120331	1	1	1	1
〃	560 〃	8120561	4	4	4	4
〃	680 〃	8120681	1	1	1	1
〃	1K 〃	8120102	4	4	4	4
〃	1.5K 〃	8120152	1	1	1	1
〃	2.0K 〃	8120202	1	1	1	1
〃	2.2K 〃	8120222	1	1	1	1
〃	3.3K 〃	8120332	3	3	3	3
〃	4.7K 〃	8120472	8	8	8	8
〃	8.2K 〃	8120822	2	2	2	2
〃	12K 〃	8120123	4	4	4	4
〃	22K 〃	8120223	1	1	1	1
〃	27K 〃	8120273	1	1	1	1
〃	33K 〃	8120333	3	3	3	4
〃	47K 〃	8120473	2	2	2	2
〃	82K 〃	8120823	2	2	2	2
〃	100K 〃	8120104	2	2	2	2
〃	120K 〃	8120124	1	1	1	1
〃	220K 〃	8120224	1	1	1	0
〃	820K 〃	8120824	1	1	1	1
〃	47 〃	8132470	1	1	1	1
Fixed carbon resistor 1/2W ±20%	330 〃	8144331	1		1	1

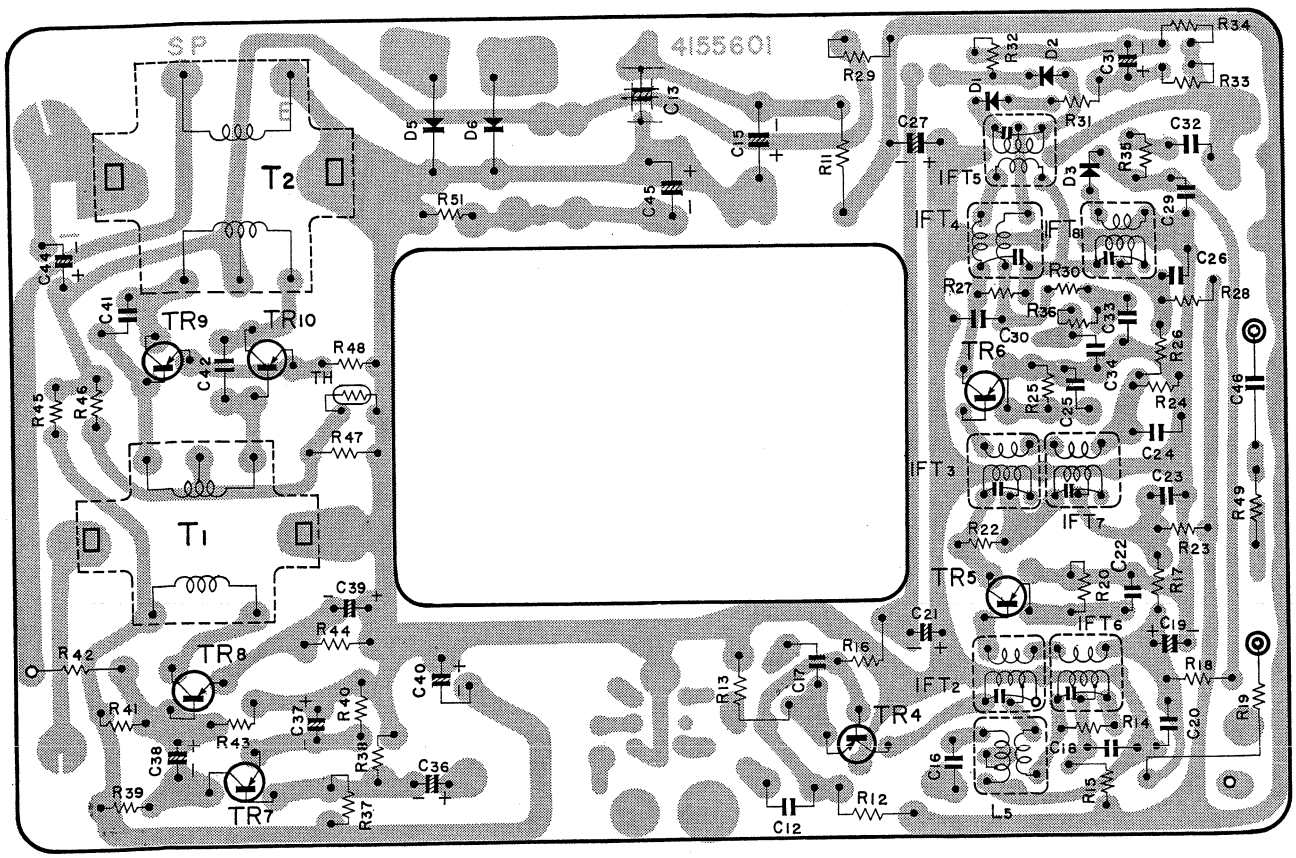
SCHEMATIC CIRCUIT DIAGRAM-P-172, P-174, H

P-172 P-174, H

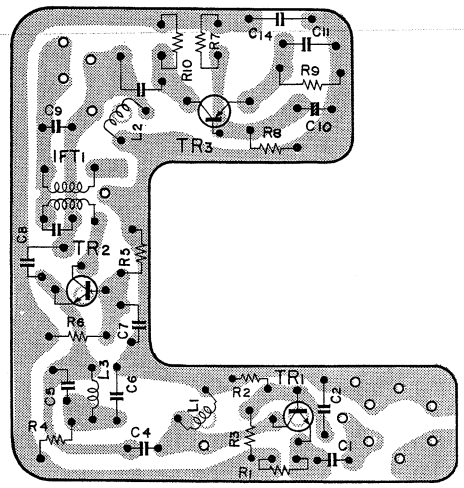


PRINTED CIRCUIT BOARD-P-172, P-174, H

P-172, B. P-174, H

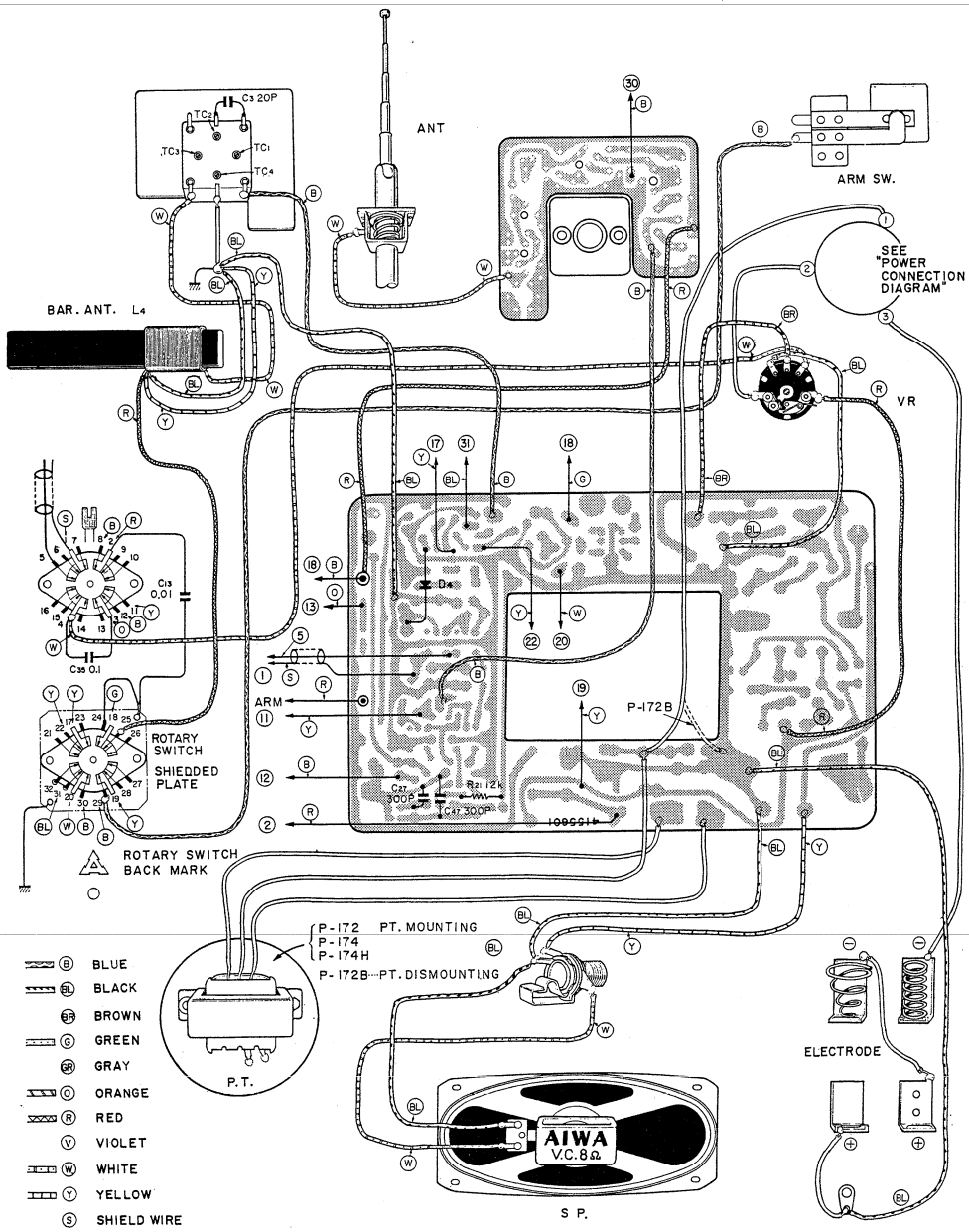


P-172, P-174



LEAD WIRE CONNECTION DIAGRAM-P-172, B, P-174, H

P-172, B.P-174, H



P-172 E, JH, S, SH, SL, SLH, SS, SSH

ELECTRICAL PARTS

DESCRIPTION	PART No.	SYMBOL No. (QUANTITY)																	
		P-172SL		P-172SLH		P-172E		P-172S		P-172SH		P-172SS		P-172SSH		P-172JH	
Printed circuit board	4161601		1		1								1		1		1
〃	4155651								1		1						
〃	4156301						1										
Variable condenser	4163606	VC1,2	1	VC1,2	1							VC 1,2	1	VC 1,2	1		
〃	4155656					VC1,2	1	CV1,2	1	VC1,2	1						
〃	4163601																
〃	4161603															VC1,2, TC 1-4	1
Speaker	4155605	SP	1	SP	1	SP	1	SP	1	SP	1	SP	1	SP	1	SP	1
Rotary switch	4159604	S1-12	1	S1-12	1							S1-12	1	S1-12	1		
〃	4156303					S1-3	1										
〃	4155606							S1-8	1	S1-8	1					S1-8	1
Variable resistor	4155660	VR1,2, S13	1	VR1,2, S13	1												
〃	7021109					VR, S4	1	VR, S9	1	VR, S9	1	VR, S13	1	VR, S13	1		
〃	4155607															VR, S9	1
Trimming capacitor	1123374	TC1,2	1	TC1,2	1	TC1,2	1	TC 1-4	2	TC 1-4	2	TC1,2	1	TC1,2	1		
SW antenna coil	4161602	L1	1	L1	1											L1	1
〃	4163607											L1	1				
IFT 1st step	1322306	IFT1	1	IFT1	1	IFT1	1	IFT1	1	IFT1	1	IFT1	1	IFT1	1	IFT1	1
IFT 2nd step	1322307	IFT2	1	IFT2	1	IFT2	1	IFT2	1	IFT2	1	IFT2	1	IFT2	1	IFT2	1
IFT 3rd step	1322308	IFT3	1	IFT3	1	IFT3	1	IFT3	1	IFT3	1	IFT3	1	IFT3	1	IFT3	1
AM OSC coil	4155653	L5	1	L5	1	L2	1	L4	1	L4	1					L4	1
〃	1447305											L6	1	L6	1		
LW OSC coil	1447306	L6	1	L6	1												
Choke coil	4155608	CH	1	CH	1	CH	1	CH	1	CH	1	CH	1	CH	1	CH	1
Input transformer	1451315	T1	1	T1	1	T1	1	T1	1	T1	1	T1	1	T1	1	T1	1
Output transformer	1451316	T2	1	T2	1	T2	1	T2	1	T2	1	T2	1	T2	1	T2	2
Radiation plate	1451319		2		2		2		2		2		2		2		2
Transistor	8012670	TR 1, 2	2	TR 1, 2	2	TR 1, 2	2					TR 1, 2	2	TR 1, 2	2		
〃	8012672							TR1	1	TR1	1					TR2	1
〃	8012671															TR1	1
〃	8012680	TR 3, 4	2	TR 3, 4	2							TR 3, 4	2	TR 3, 4	2		
〃	8011120							TR 3, 4	2	TR 3, 4	2						
〃	8024700	TR 5, 6	2	TR 5, 6	2	TR 5, 6	2	TR 5, 6	2	TR 5, 6	2	TR 5, 6	2	TR 5, 6	2	TR 5, 6	2
〃	8011100							TR2	1	TR2	1						
〃	8012681															TR3	1
〃	8010310					TR 3, 4	2										
〃	8012682															TR4	1
〃	8022630	TR 7, 8	2	TR 7, 8	2	TR 7, 8	2	TR 7, 8	2	TR 7, 8	2	TR 7, 8	2	TR 7, 8	2	TR 7, 8	2
Diode	8051060	D1	1	D1	1												
〃	8052446					D1	1	D1	1	D1	1	D1	1	D1	1	D1	1
Silicon diode	7027005			D2,3	2					D2,3	2			D2,3	2	D2.3	2
Thermister	8064470	TH	1	TH	1	TH	1									TH	1
〃	8064261							TH	1	TH	1	TH	1	TH	1		
Power transformer	7004010			T3	1					T3	1			T3	1	T3	1
AC voltage selector switch	7031058			S14	1					S10	1			S14	1	S10	1
Fuse	1470630			FUSE	1					FUSE	1			FUSE	1	FUSE	1
SW OSC coil	4161604	L4	1	L4	1											L3	1
〃	4155654							L3	1	L3	1						
〃	4163602											L4	1	L4	1		
SW OSC coil	4163601											L5	1	L5	1		
Cushion, variable condenser	1225118		1		1		1		1		1		2		2		1
Earphone jack	7032029	EP.J	1	EP.J	1	EP.J	1	EP.J	1	EP.J	1	EP.J	1	EP.J	1	EP.J	1
Nut, earphone jack	7081005		1		1		1		1		1		1		1		1
Ferrite bar antenna coil	4161606	L2,3	1	L2,3	1												
〃	4156302					L1	1									L2	1
〃	4155659							L1,2	1	L1,2	1						
〃	4163603											L2,3	1	L2,3	1		
Wire kit	4161605		1		1												

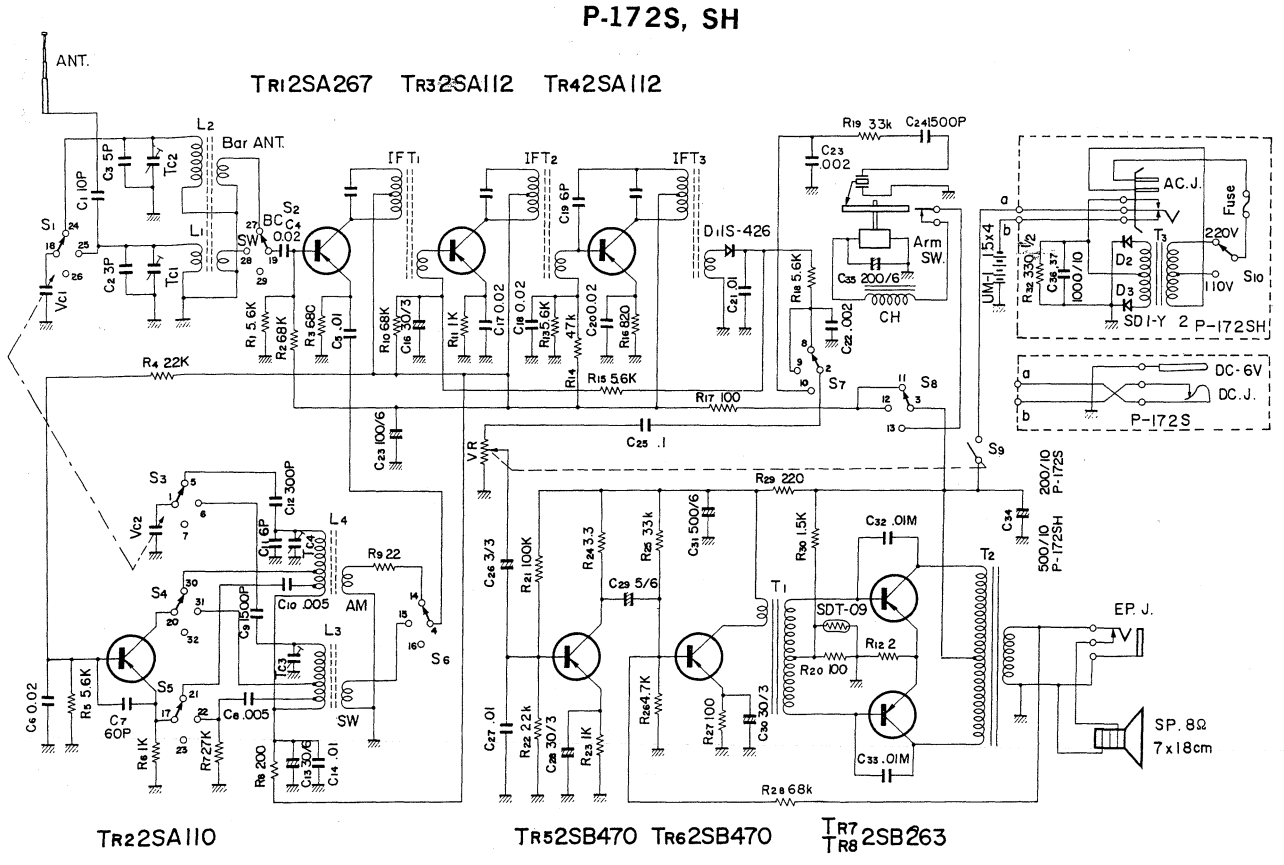
DESCRIPTION	PART No.	SYMBOL No. (QUANTITY)							
		P-172SL	P-172SLH	P-172E	P-172S	P-172SH	P-172SS	P-172SSH	P-172JH
Wire kit	4157635		1			1		1	1
〃	4156310			1					
〃	4155658				1	1			
〃	4155662					1			
〃	4163611					1	1	1	
〃	4157601								1

DESCRIPTION		PART No.	QUANTITY							
			P-172SL	P-172SLH	P-172E	P-172S	P-172SH	P-172SS	P-172SSH	P-172JH
ixed carbon resistor 1/4W ±10%	2 ohm	8120209	1	1	1	1	1	1	1	1
〃	100 〃	8120101	5	5	3	3	2	6	6	5
〃	150 〃	8120151			1	1	1			
〃	200 〃	8120201			1	1	1			
〃	220 〃	8120221	1	1	1		1	1		1
〃	470 〃	8120471	1	1	1	1		1	1	1
〃	560 〃	8120561				1	1	1	1	
〃	680 〃	8120681			1	1	1			
〃	820 〃	8120821			1	1	1			
〃	1K 〃	8120102	5	5	3	2	2	3	3	4
〃	1.5K 〃	8120152				1	1			
〃	1.8K 〃	8120182	1	1	1			1	1	1
〃	3.3K 〃	8120332	6		1	1	1	5	5	5
〃	4.7K 〃	8120472	2	2	1	2	2	1	1	2
〃	5.6K 〃	8120562	1	1	4	4	4			1
〃	8.2K 〃	8120822		1						
〃	10K 〃	8120103						1	1	
〃	12K 〃	8120123	1					2	2	2
〃	22K 〃	8120223	2	2	2	2	2	3	3	2
〃	33K 〃	8120333	3	3	2	3	2	2	2	1
〃	47K 〃	8120473			1	2	2			3
〃	56K 〃	8120563				4	4			
〃	68K 〃	8120683	2	2	2	3	3	2	2	2
〃	100K 〃	8120104	1	1	1	1	1	1	1	1
〃	220K 〃	8201224	1	1		1	1	1	1	1
Fixed carbon resistor 1/2W ±10%	330 〃	8144331		1			1	1	1	1
Ceramic capacitor	2 PF	8213020	1	1					1	1
〃	3 〃	8213030				1	1			
〃	5 〃	8213050	3	3	1	1	1			3
〃	7 〃	8213070			1		1	1	1	
〃	9 〃	8213090						3	3	
〃	10 〃	8212100	1	1		1	1			1
〃	15 〃	8212150	1	1				1	1	1
〃	18 〃	8212180						1	1	
〃	25 〃	8212220	1	1						1
〃	300 〃	8212510						1	1	
〃	0.002 μF	8215650			1	1		2	2	
〃	0.005 〃	8215720			1	1				
〃	0.01 〃	8205810	13	1	4	5	5	13	13	13
〃	0.02 〃	8205830	1	1	4	5	5	2	2	1
〃	0.05 〃	8215850						1	1	1
〃	YY 0.001 〃	8214610	1	2				1	1	
〃	YY 0.002 〃	8214650				1	2	1	1	1
〃	YY 0.005 〃	8214720	1		1	1	2	1	1	
〃	YY 0.01 〃	8214810	1							
〃	82 PF	8212350	1	1						1
〃	560 〃	8212560	1							
〃	3000 〃	8517690				1		1	1	
〃	1500 〃	8177630				1	1	2	2	

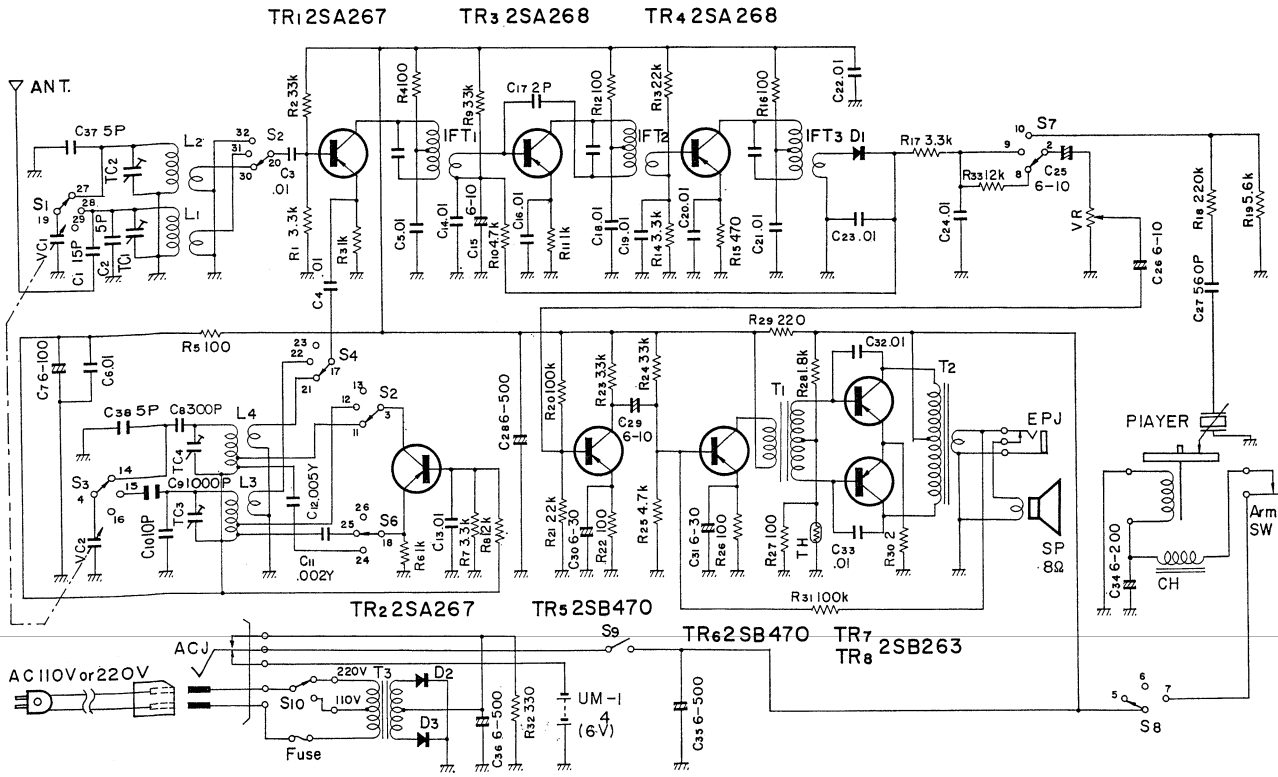
DESCRIPTION		PART No.	QUANTITY							
			P-172SL	P-172SLH	P-172E	P-172S	P-172SH	P-172SS	P-172SSH	P-172JH
Mylar film capacitor	0.01 μF	8727810	3	3	2	2	2	2	2	3
〃	0.02 〃	8727830						2	2	
〃	0.1 〃	8727910				1	1			
〃	0.002 〃	8727660						1	1	
Chemical capacitor	BD 5 〃	8332500			2	1	1			
〃	〃 10 〃	8332110	4	4		1	1	4	4	4
〃	〃 30 〃	8332310	2	2	3	3	3	2	2	2
〃	〃 100 〃	8332120	1	1	2	2	2	1	1	1
〃	〃 200 〃	8332220	1	0	2	2	1			1
〃	〃 500 〃	8332520		3				2	3	3
〃	CD 500 〃	8432520	1	1	1	0	3	2	2	
〃	CD 200 〃	8432220		1		1	1	1	1	1
〃	BD 3 〃	3832300	1		1	1	1			
Polystyrene capacitor	180 P	8619460	1	1	1					
〃	300 〃	8617510	1	1		1	1	1	1	1
〃	1000 〃	8517610		1				2		1
〃	1500 〃	8517630				1	1		2	
〃	3000 〃	8517690							1	

SCHEMATIC CIRCUIT DIAGRAM P-172 S, SH, JH, E, SL, SLH, SS, SSH

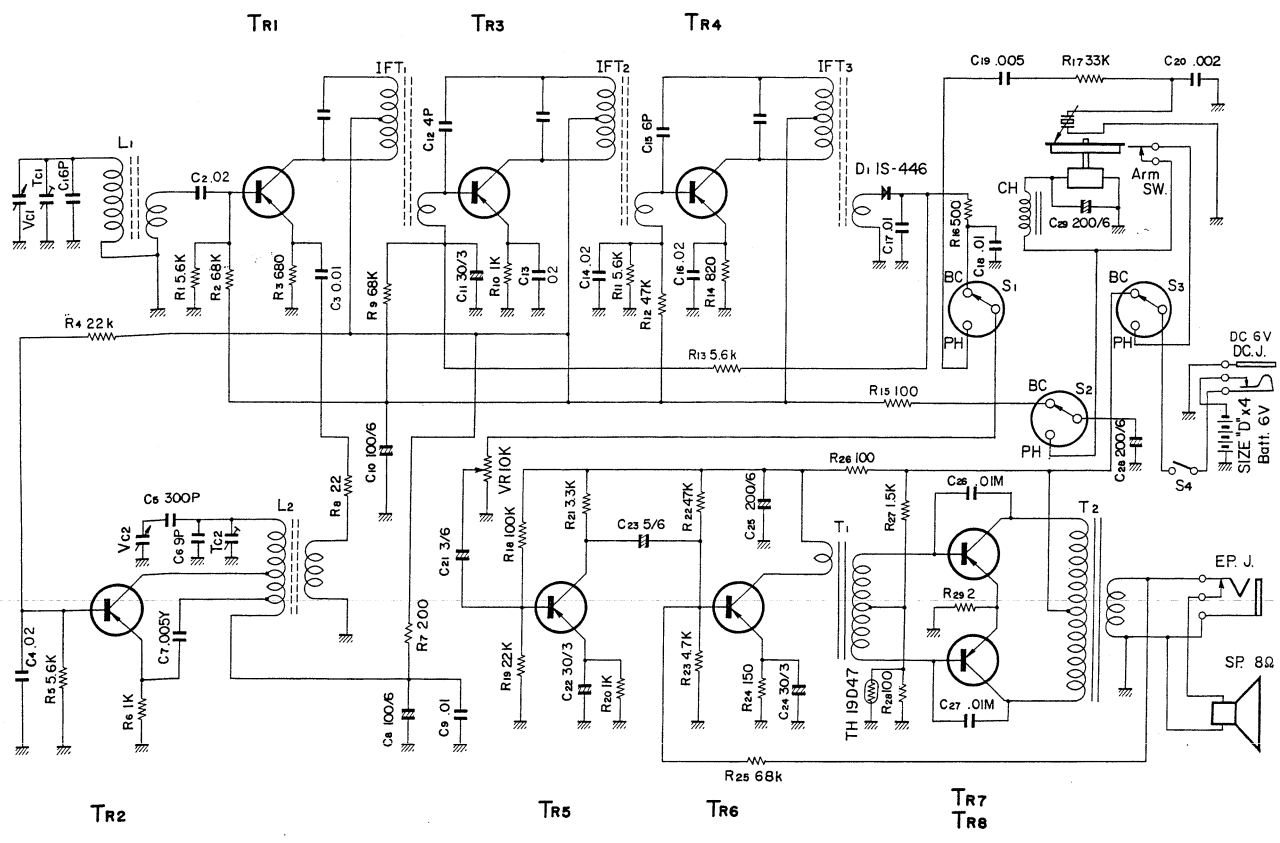
P-172S, SH



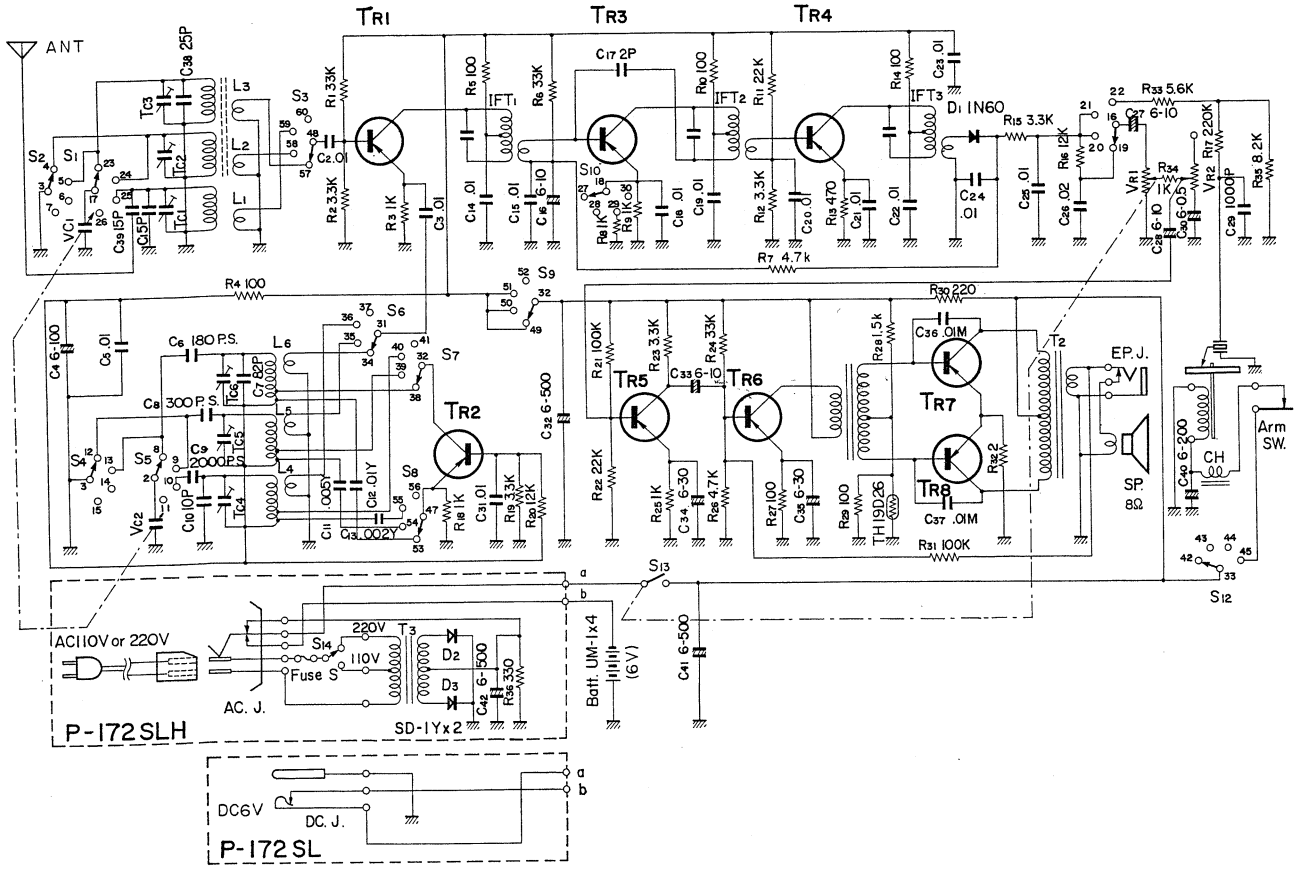
P-172JH



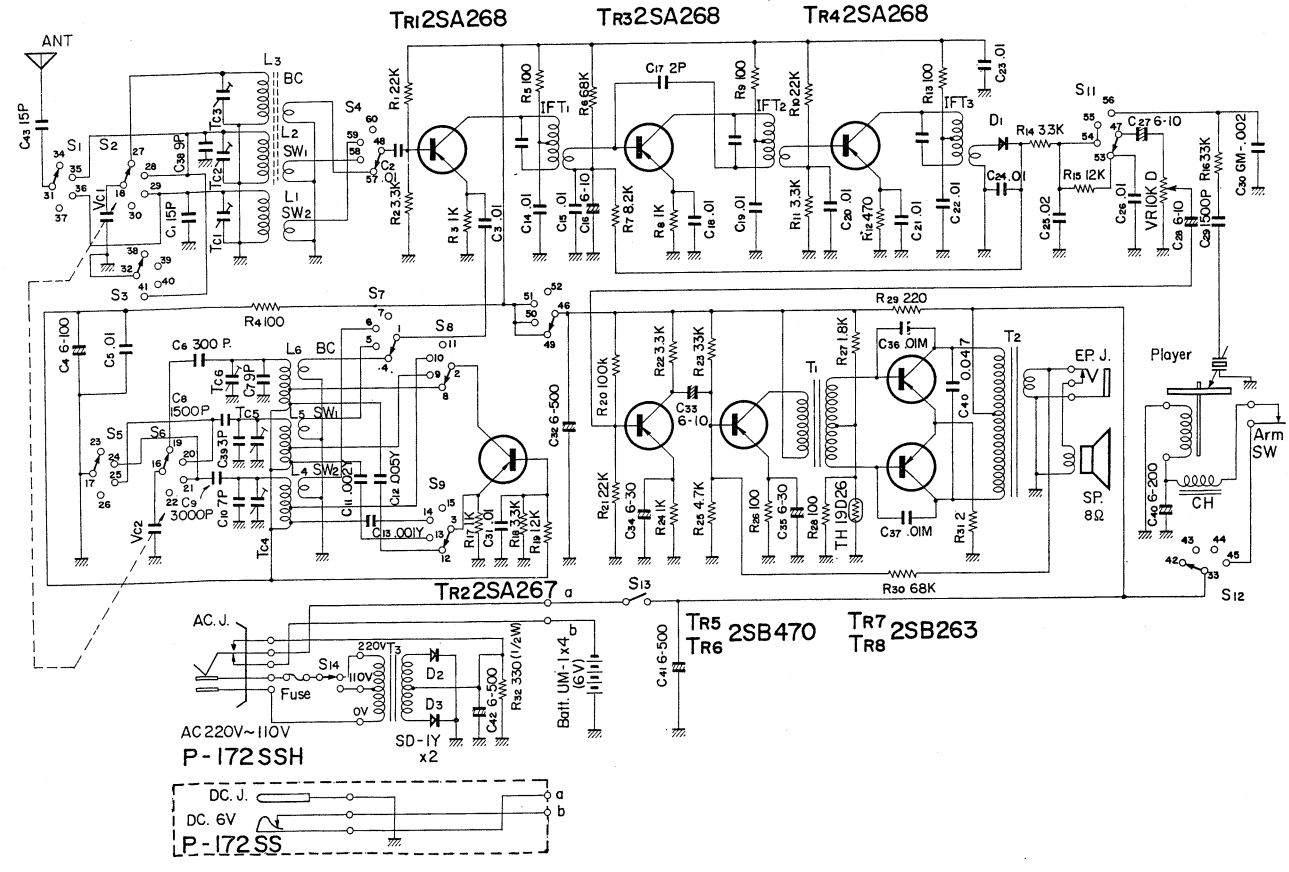
P-172E



P-172SL, SLH



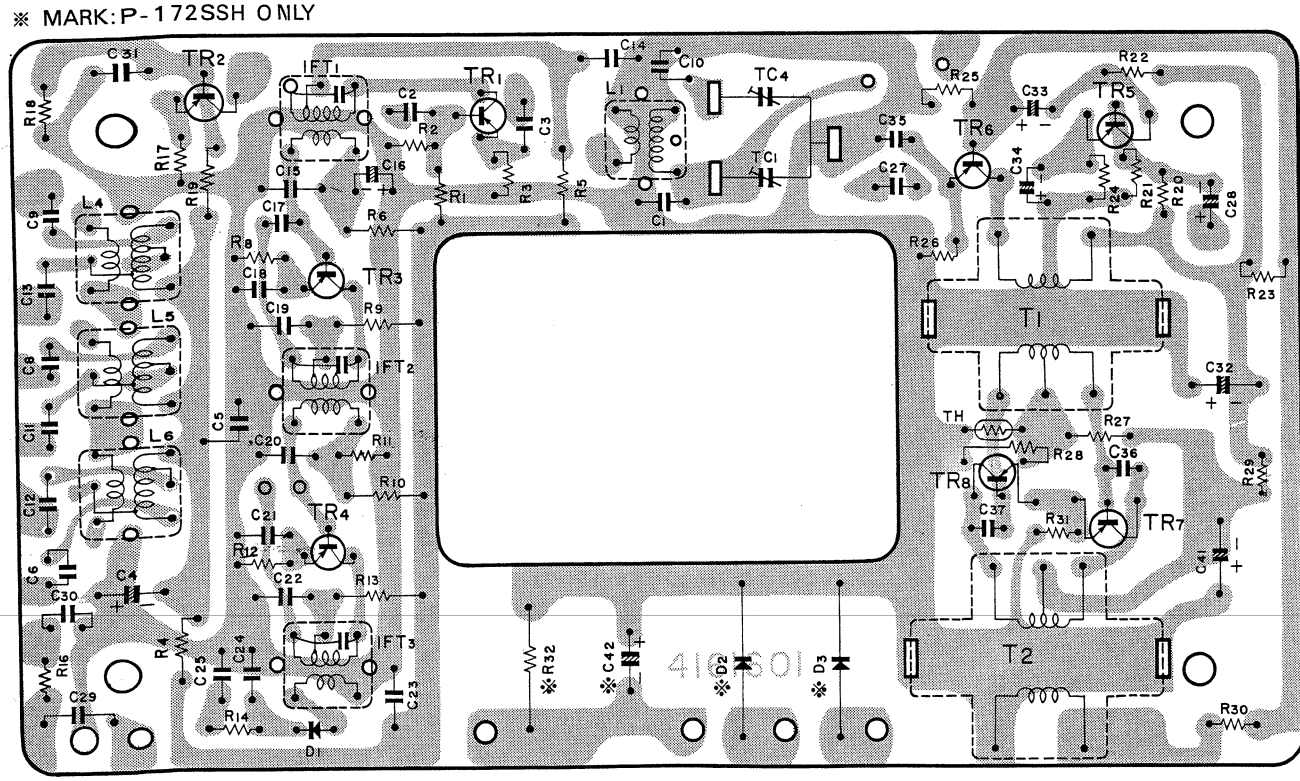
P-172SS, SSH



PRINTED CIRCUIT BOARD-P-172 SS, SSH, S, SH, SL, SLH, JH,

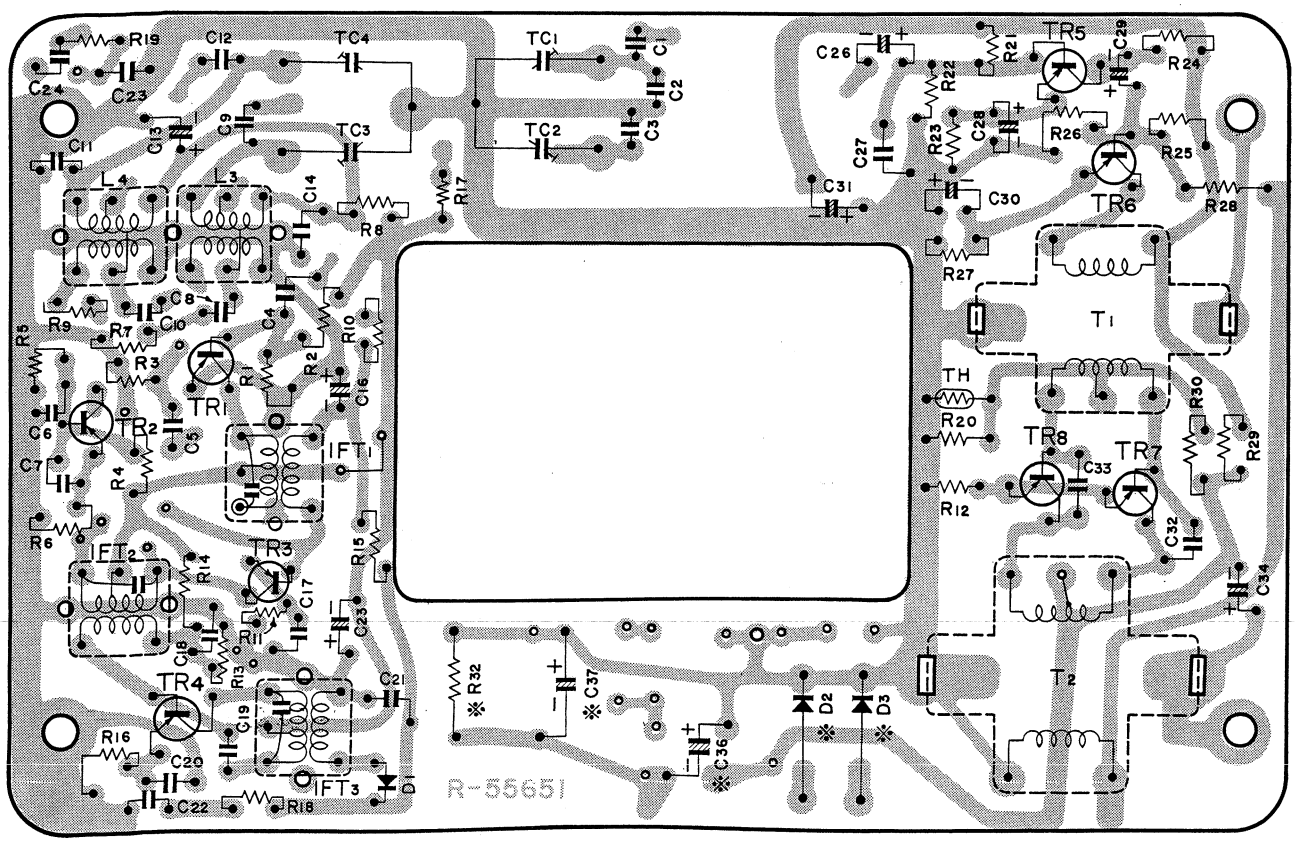
P-172SS, SSH

※ MARK: P-172SSH ONLY

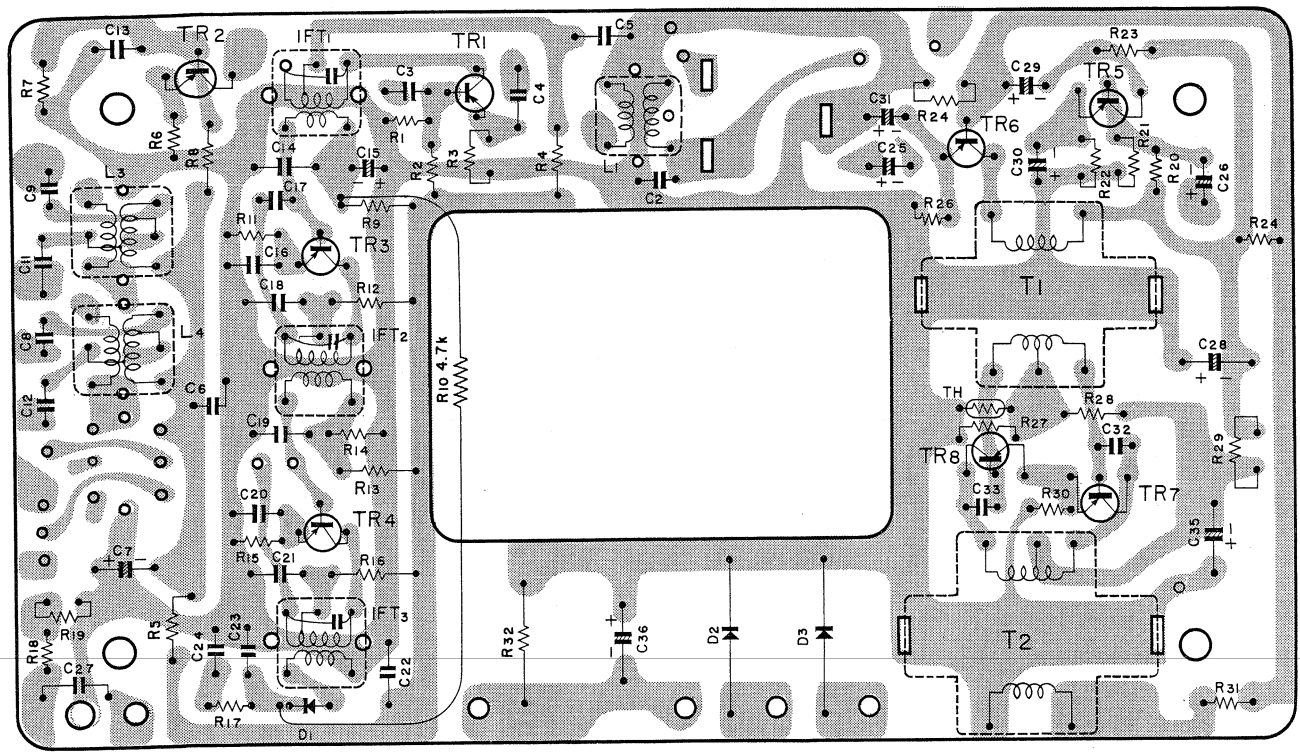


P-172S, SH

※ MARK: P-172SH ONLY

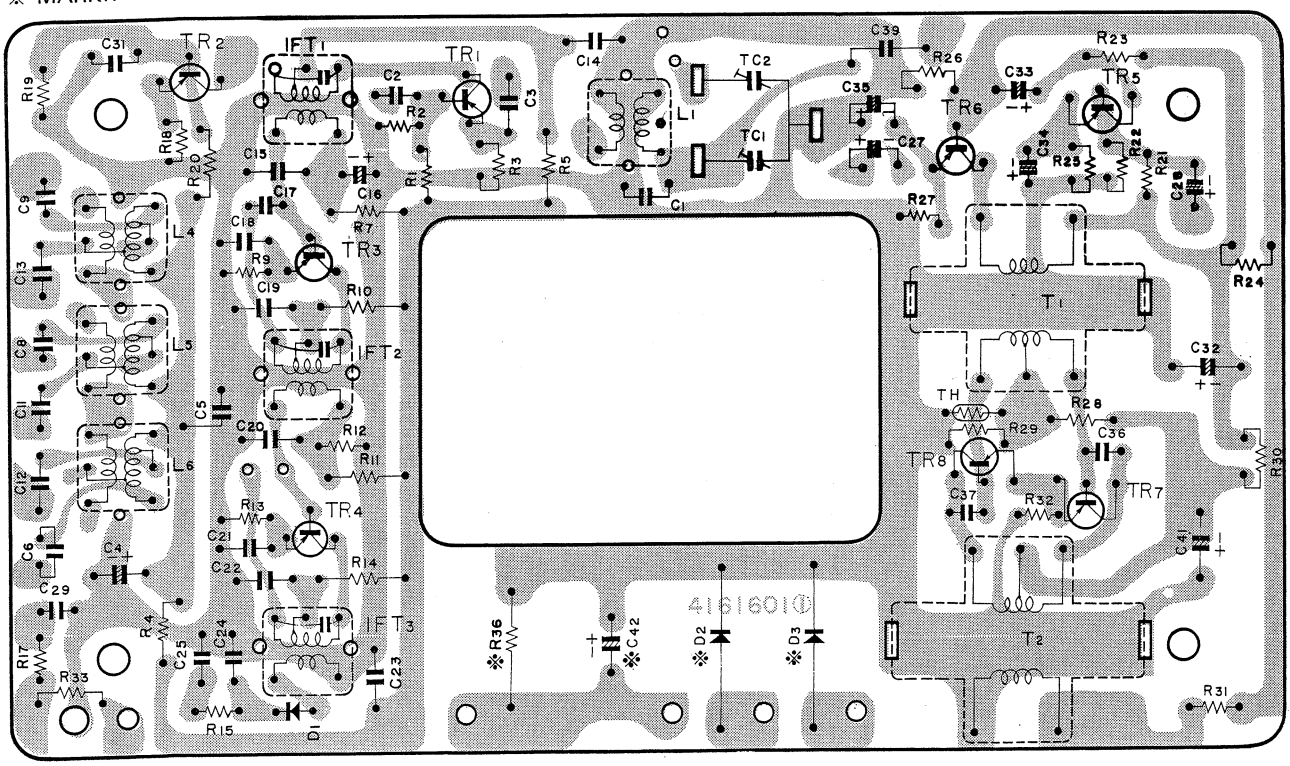


P-172JH



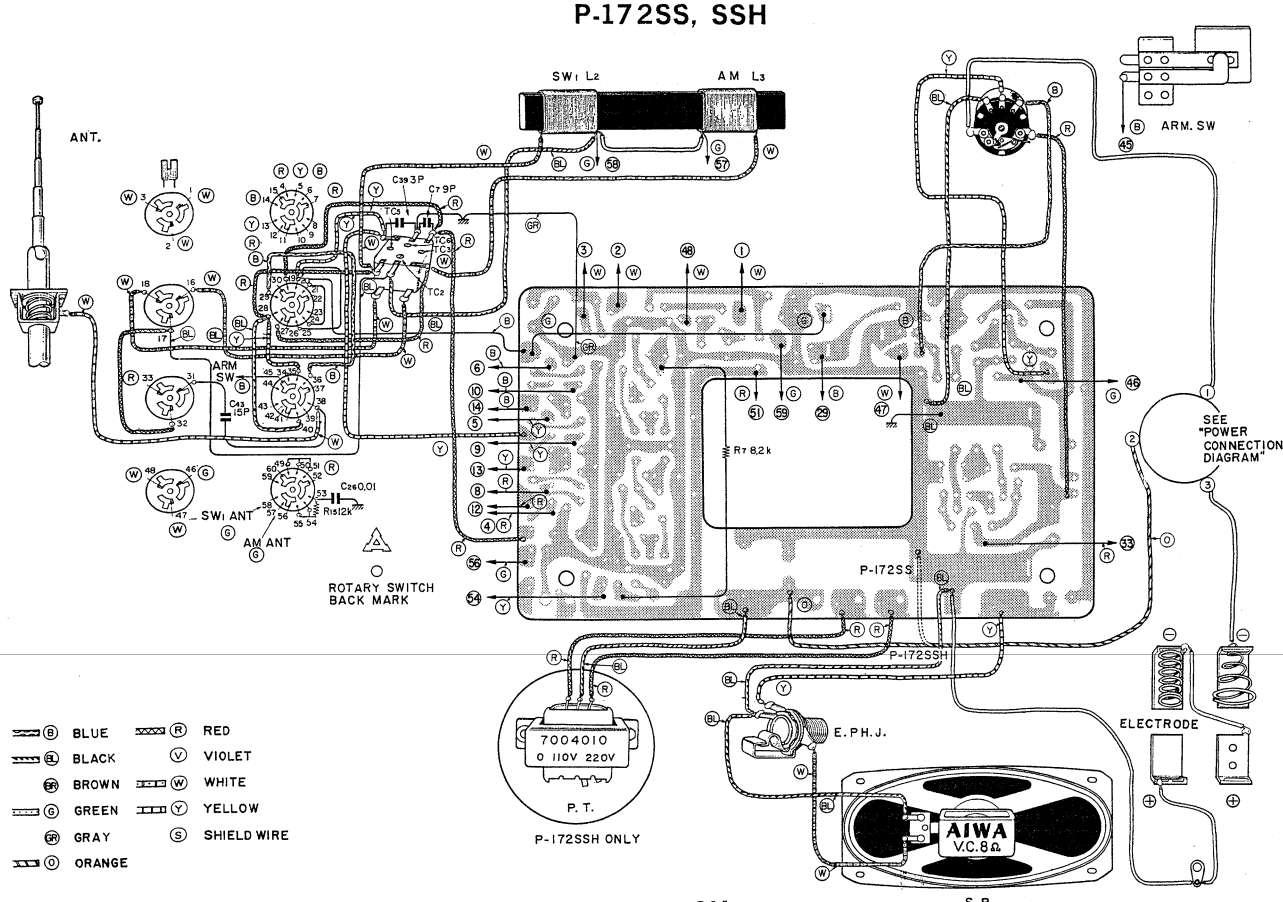
P-172SL, SLH

※ MARK:P-172SLH ONLY

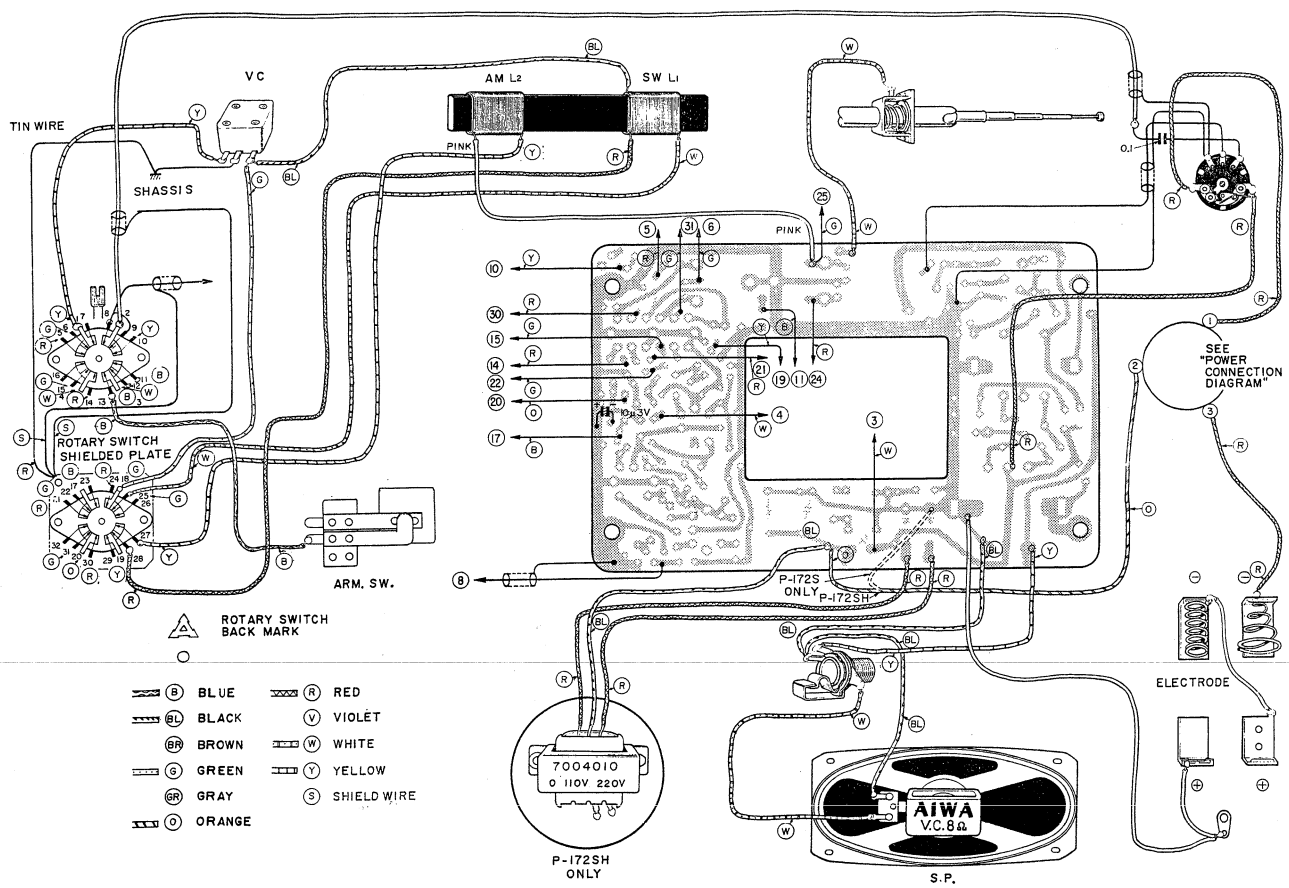


LEAD WIRE CONNECTION DIAGRAM-P-172 SS, SSH, S, SH, SL, SLH, JH

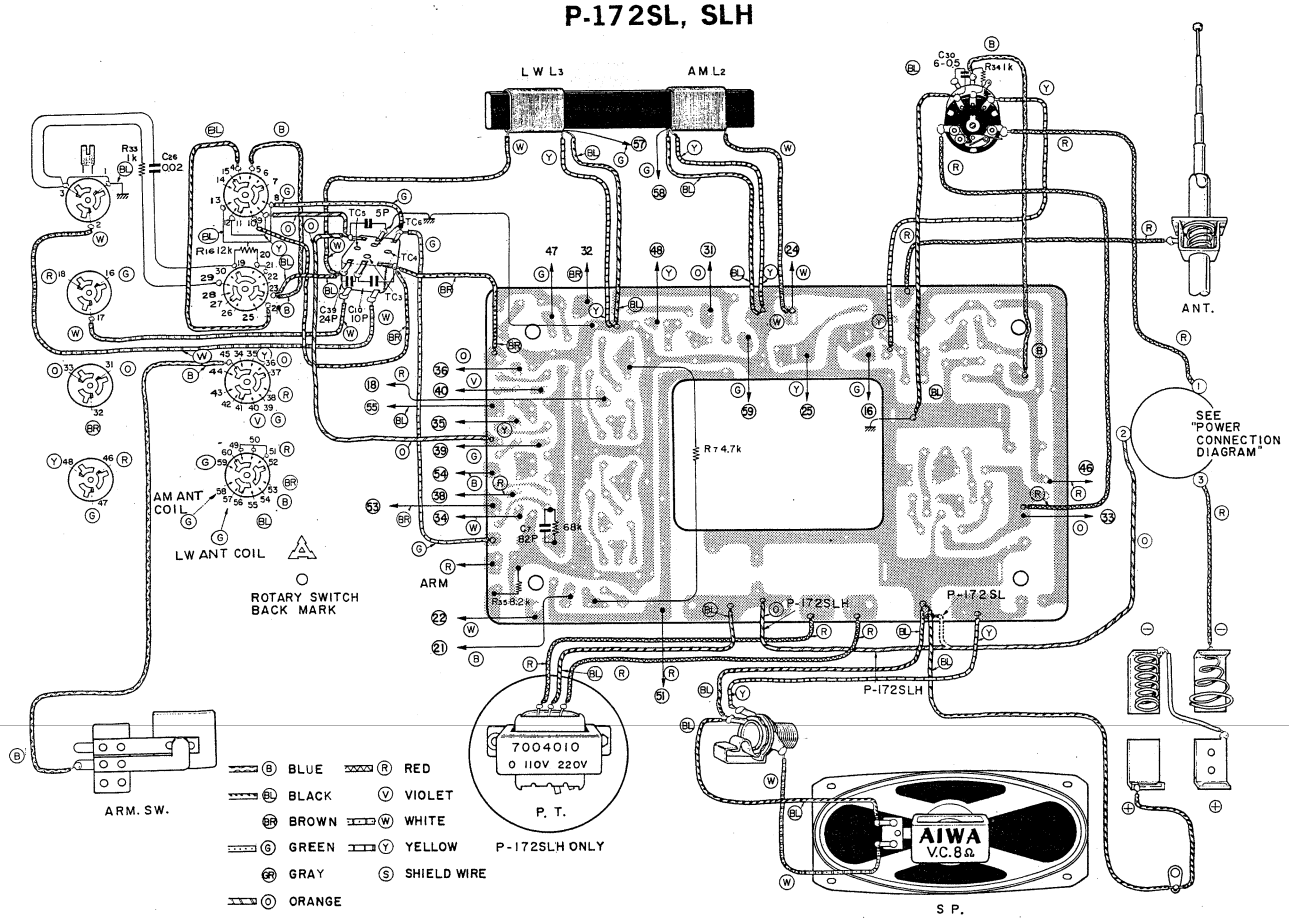
P-172SS, SSH



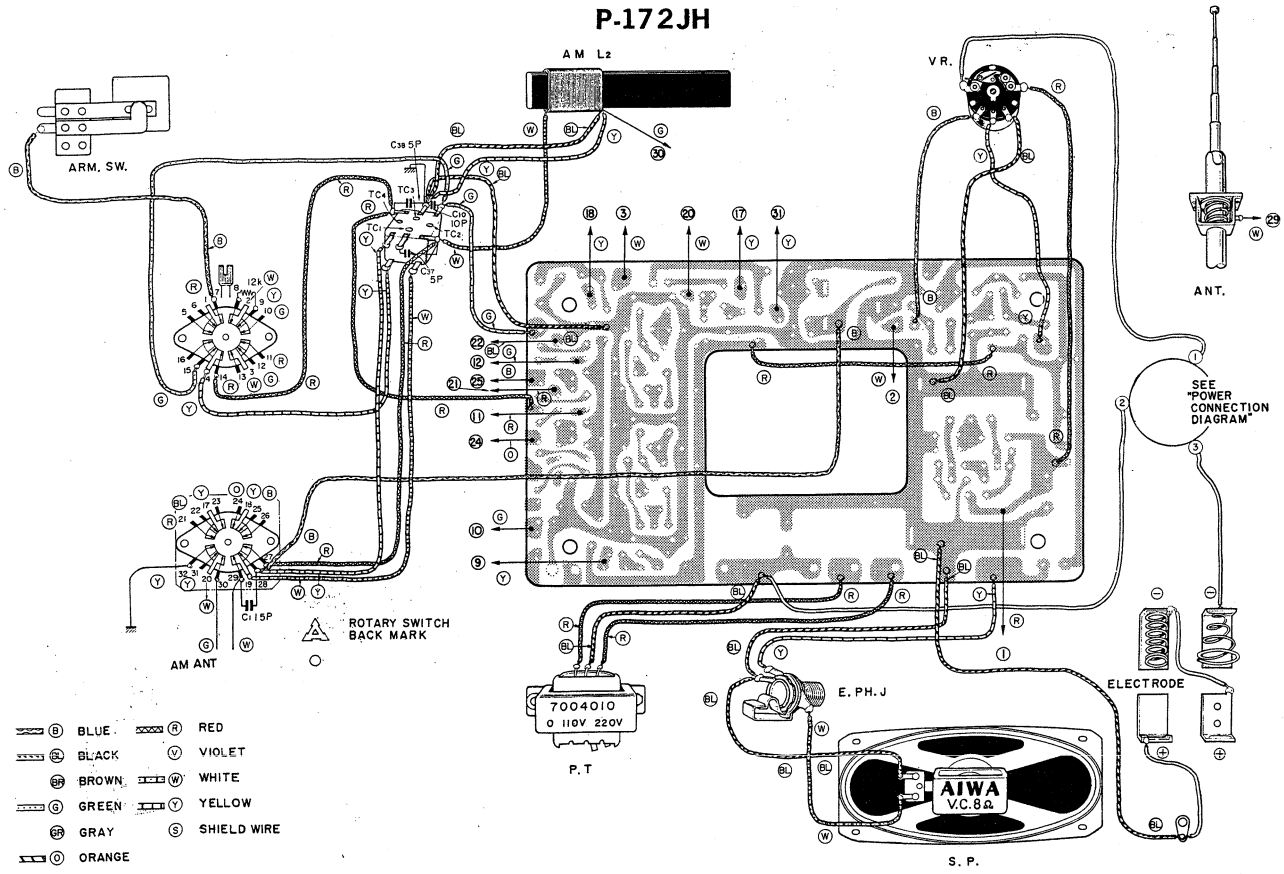
P-172S, SH



P-172SL, SLH

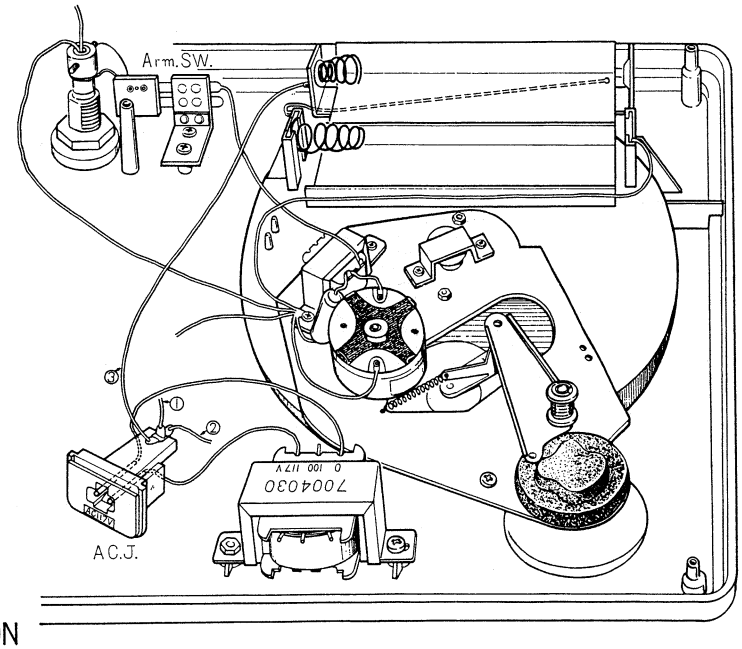


P-172JH

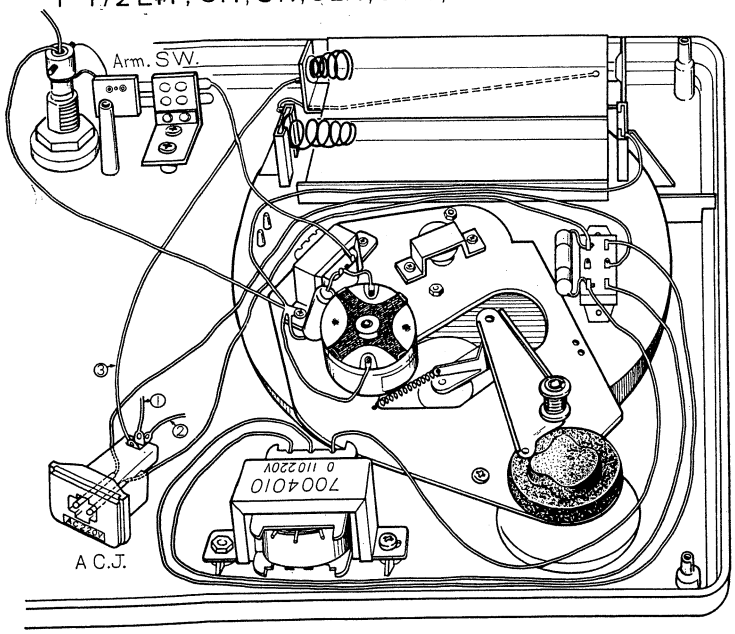


POWER CONNECTION DIAGRAM

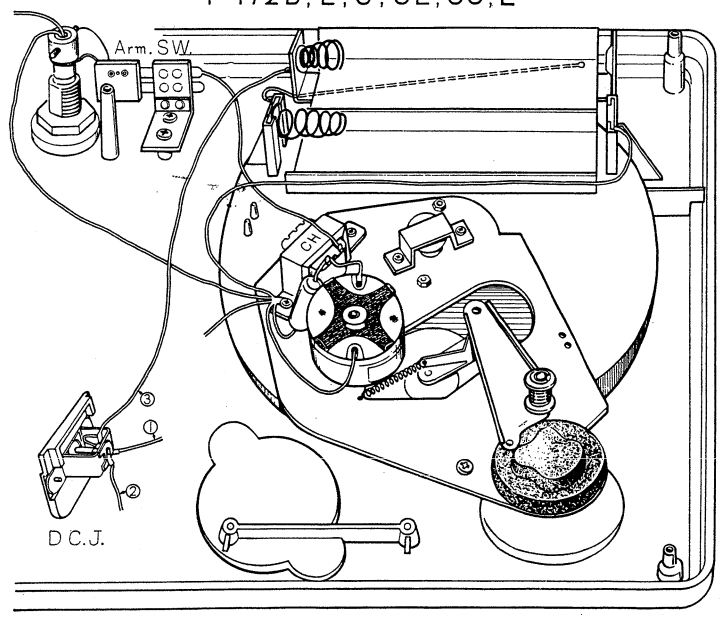
BATT.(DC) & PLUG IN (AC 117V) OPERATION
P-172 . P-174



BATT.(DC) & PLUG IN (AC 110/220V) OPERATION
P-172 LH , SH, JH, SLH, SSH, ZH . P-174H



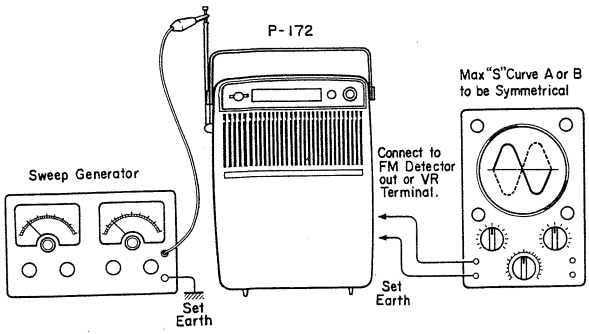
BATT.(DC) & AC-DC 6V CONVERTER OPERATION
P-172 B, E, S, SL, SS, L



ALIGNMENT INSTRUCTIONS

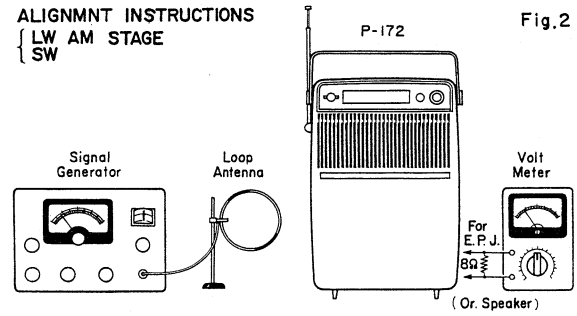
FM STAGE

Fig.1



ALIGNMNT INSTRUCTIONS
{ LW AM STAGE
{ SW

Fig.2



FM STAGE FOR MODEL P-172, B, L, LH, ZH, P-174, H

* Volume control should be at maximum.
* Oscilloscope and Sweep Generator should be connected as Fig. 1.

STEP	SWEEP GENERATOR COUPLING	BAND SWITCH SETTING	SWEEP GENERATOR FREQUENCY	RADIO DIAL SETTING	ADJUST FOR "S" CURVE MAX
1	Fig. 1	FM	10. 7 Mc	VC Max.	IFT. 1~5
2	Fig. 1	FM	86. 5 Mc	VC Max.	L2
3	Fig. 1	FM	110 Mc	VC Min.	TC2
4	Repeat Step 2 & 3				
5	Fig. 1	FM	88 Mc	88 Mc	L1
6	Fig. 1	FM	108 Mc	108 Mc	TC1
7	Repeat Step 5 & 6				

MW (AM) STAGE FOR MODEL P-172, B, E, JH, L, LH, S, SH, SL, SLH, SS, SSH, ZH, P-174, H

* Volume control should be at maximum.
* Instrumentation should be set as Fig. 2.

STEP	SIGNAL GENERATOR COUPLING	BAND SWITCH SETTING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	ADJUST FOR MAX. OUTPUT	P-172E	P-172S SH	P-172 JH	P-172 SL SLH	P-172 SS SSH	P-172, B P-174, H	P-172 L LH	P-172 ZH
1	Loo p	MW	455 Kc	VC MAx.	MW IFT	IFT 1,2,3	IFF 1,2,3	IFT 1,2,3	IFT 1,2,3	IFT 1,2,3	IFT 6,7,8	IFT 6,7,8	IFT 6,7,8
2	Loo p	MW	515Kc	VC Max.	MW OSC Coil	L2	L4	L4	L5	L6	L5	L6	L6
3	Loo p	MW	1700 Kc	VC Min	MW OSC trimmer	TC2	TC4	TC4	TC5	TC6	TC4	TC5	TC5
4	Repeat step 2 & 3												
5	Loo p	MW	600 Kc	600 Kc	MW Ant. coil	L1	L2	L2	L2	L3	L4	L4	L4
6	Loo p	MW	1400 Kc	1400 Kc	MW Ant. trimmer	TC1	TC2	TC2	TC2	TC3	TC3	TC3	TC3
7	Repeat Step 5 & 6												

LW STAGE FOR MODEL P-172 SL, SLH, L, LH

* Volume control should be at Maximum.
* Instrumentation should be set as Fig. 2.

STEP	SIGNAL GENERATOR COUPLING	BAND SWITCH SETTING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	ADJUST FOR MAX. OUTPUT	P-172 SL SLH	P-172 L, LH
1	Loop	LW	145 KC	VC Max.	LW OSC Coli	L6	L7
2	Loop	LW	370KC	VC Min.	LW OSC Trimmer	TC6	TC6
3	Repeat Step 1 & 2						
4	Loop	LW	145 KC	VC Max.	LW Ant. Coil	L3	L5
5	Loop	LW	370 KC	VC Min.	LW Ant. Trimmer	TC3	TC4
6	Repeat Step 4 & 5						

SW STAGE FOR MODEL P-172 S, SH, SL, SLH, SS, SSH, ZH, JH

* Volume control should be at Maximum.
* Instrumentation should be set as Fig. 2,3.

MODEL No.	P-172 S, SH				P-172SL, SLH/P-172JH				P-172 ZH			
SIGNAL GENERATOR COUPLING	Loop (Fig. 2)				Dummy antenna (Fig. 3)				Loop (Fig. 2)			
BAND SWITCH SETTING	SW				SW				SW			
SIGNAL GENERATOR FREQUENCY	Step				Step P172SL, SLH/P-172JH				Step			
	1	2	3	4	1	2	3	4	1	2	3	4
	3.8 Mc	12.5 Mc	4.5 Mc	10 Mc	5.8 Mc	17 Mc	7 Mc	15 Mc	5.85 Mc	6.35 Mc	5.85 Mc	6.35 Mc
RADIO DIAL SETTING	VC Max.	VC Min.	4.5 Mc	10 Mc	VC Max.	VC Min.	7 Mc	15 Mc	VC Max.	VC Min.	VC Max.	VC Min.
ADJUST FOR MAX. OUTPUT	L3	TC3	L1	TC1	L4/L3	TC4/TC3	L1/L1	TC1/TC1	L7	TC6	L5	TC4
BAND WIDTH	Repeat step 1 & 2				Repeat step 1 & 2				Repeat step 1 & 2			
TRACKING	Repeat step 3 & 4				Repeat step 3 & 4				Repeat step 3 & 4			

ALIGNMNT INSTRUCTIONS
SW STAGE

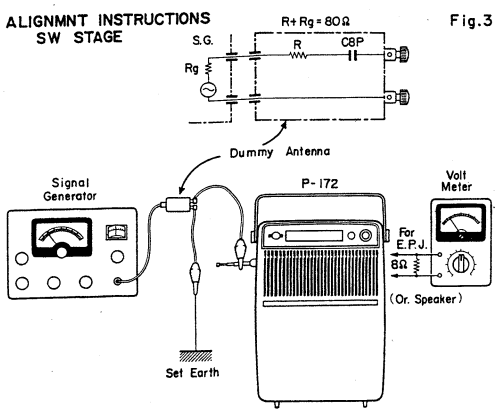


Fig.3

P-172 SS, SSH							
Loop (Fig. 2)				Dummy antenna (Fig. 3)			
SW1				SW2			
Step				Step			
1	2	3	4	5	6	7	8
3 Mc	9 Mc	3.5 Mc	7 Mc	8 Mc	23 Mc	10 Mc	20 Mc
VC Max.	VC Min.	3.5 Mc	7 Mc	VC Max.	VC Min.	10 Mc	20 Mc
L5	TC5	L2	TC 2	L4	TC4	L1	TC1
Repeat step 1 & 2				Repeat step 5 & 6			
Repeat Step 3 & 4				Repeat step 7 & 8			